

Digital learning practices during remote learning and beyond:

A case study of four schools

October 2021





Acknowledgement

This report brings together findings from four case studies. These case studies were commissioned by the Association of Independent Schools of NSW as part of a broader study to investigate teachers' effective and inclusive digital pedagogies, as well as emerging digital practices during and after the period of remote learning.

Research Team

Associate Professor Mathew Kearney is a researcher in the area of technology-enhanced learning. His main research focus is on innovative technology-supported learning in K-12 and teacher education contexts. He is leader of the initial teacher education discipline in the Faculty of Arts and Social Sciences at UTS, and a senior researcher in the Faculty's Centre for Research on Education in a Digital Society. He has published 11 book chapters and 35 journal papers, and is lead author with two colleagues of a new Springer book titled *Theorising and Implementing Mobile Learning*. Kearney was part of a 3-member team that won first prize at the 2019 European e-Learning Excellence Award.

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.

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Digital learning practices

a case study approach

Authors Note

We write this report during Term Three 2021, as NSW again experiences a serious pandemic outbreak. Primary and secondary schools across the state are experiencing further lockdowns and striving to manage the numerous challenges accompanying remote teaching. Hence, we are mindful of the timeliness of this report, and we trust that some of key findings and recommendations can assist schools to cope with these ongoing trials. Participants in case schools have already informed us that their individual case reports, available on the [Opportunities out of Remote Learning webpage](#), have assisted them as reflective practitioners, and our hope is that overarching 'lessons learned', as outlined in this report, might similarly contribute to other schools' management of this crisis.



The 2020 emergency remote teaching period highlighted the need for teachers to develop a broadened and inclusive set of digital pedagogies for supporting students' learning. These approaches needed to support this learning in both physical and virtual learning spaces, and cater for students' varied needs and circumstances. This included accessibility needs and connectivity limitations.

The research aimed to uncover effective digital practices to inform ongoing best-practices with technologies in Years K-12. This included the factors influencing their successful and inclusive enactment.

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?

What we found

Main findings

- Each school's values and mission informed whole-school decisions and strategies.
- Staff collegiality was a driving factor in each school's success.
- Teacher collaboration was a catalyst for rapid implementation of digital practices.
- The introduction of new technologies into the school was minimised.
- An agile mindset helped teachers to embrace new practices.
- Schools significantly improved their blended learning approaches.
- 'Live' video-conferenced classes were minimised.
- Self-paced student activities were emphasised.
- Digital practices focused on support of student agency, peer learning and wellbeing.



All case schools emphasised that their own unique school ethos was key to their nuanced and context-specific decision-making during remote teaching. In every case, school leaders stressed that their school's values and mission informed whole-school decisions and strategies to support teaching, learning and wellbeing during this period. Staff collegiality was evidently a driving factor in each school's successful management of the remote teaching period, and strong teacher collaboration was a catalyst for quickly developing and enacting effective new digital practices. The introduction of new technologies was minimised, and tools and platforms were carefully chosen based on user-friendliness and to reduce disruption to staff and students as they pivoted to remote teaching. Teachers at all four schools adopted an agile mindset that helped them to embrace new practices that often resulted in serendipitous outcomes informing post-lockdown approaches. These typically involved improved blended learning approaches, and the use of technology to enhance student agency, peer learning and wellbeing.

These findings can be grouped into four main themes.

Blended learning approaches

Key to the blended learning approaches in most schools was a focus on more independent, student-controlled learning tasks. Synchronous or 'live' classes were reduced and there was an increased emphasis on carefully designed, self-paced learning tasks that promoted student choice, ownership and control. Teachers at all schools were conscious of the benefits of peer collaboration to support quality learning and optimise social interactions for students' wellbeing. As a result, teachers adopted digital practices to leverage learning conversations and group work.

Explicit teaching

Teachers were conscious that they had less time for explicit teaching in a remote teaching environment. Many invested much time in creating carefully tailored instructional videos that attempted to succinctly communicate key ideas and explanations to students. In this way, the remote teaching period became a time when many teachers 'stepped up' their use of new media to support explicit teaching strategies. Teachers developed new media skills to effectively create their own digital resources for this purpose. Students appreciated using learning resources made by their own teacher and interacted with these 'digital assets' at their own pace before or after 'live' video-conferenced classes.

Inclusive strategies

Schools adopted a variety of strategies to assist students who were disadvantaged due to limited access to the internet or devices. Schools collected digital resources, such as teacher-made videos or downloaded copies of textbooks, to share with students on portable USB sticks. They also created take-home 'learning packs' (one primary school called them 'learning showbags') containing self-paced learning resources and printed lesson notes. Schools also provided technical assistance, with some using pre-recorded videos from technical support staff.

Wellbeing

A fundamental commitment to students' wellbeing underpinned all decisions relating to each school's adopted digital practices during the remote teaching period. This care was often extended to students' families. Frequent check-ins were built into daily routines using a range of technology-based approaches, and where needed check-ins occurred during home delivery of learning packs. Supporting students' social interactions through online technologies helped students feel connected with their peers and school staff.



Al Noori Muslim School

Overview of the case study schools

Four NSW independent schools were involved in this case study research. Data were collected virtually in two schools and onsite in two schools.

Participating Schools



MERIDEN
AN ANGLICAN SCHOOL FOR GIRLS

Meriden Anglican School
for Girls, Sydney

Data Collection: Virtual



AL NOORI
MUSLIM SCHOOL

Al Noori Muslim School,
Sydney

Data Collection: Onsite



The Nature School,
Port Macquarie

Data Collection: Onsite



St Philip's Christian College
DALE and DALE Young Parents,
Newcastle & Central Coast

Data Collection: Virtual

Data Collection

Term 4,
2020

Term 1,
2021

Term 2,
2021

Types of Data



Interviews



**Focus Groups (Students,
Teachers & Leaders)**



Artefacts

Due to their unique locations and circumstances, a slightly different approach was followed at each case study school. While they varied, the schools also worked to align how they responded to the period of remote learning to their core school priorities.

* Ethics approval was obtained from UTS HREC (ETH20-5354), and parental permission was sought for student participation as part of the research ethics process.



[Access report](#)

Case 1 - Meriden Anglican School for Girls, Sydney

Meriden Anglican School for Girls is a non-selective, independent school for girls from Pre-Kindergarten to Year 12. The Sydney school has an enrolment of approximately 1300 students. Data were collected from this school during Term 4, 2020 through interviews with four key members of the leadership team, and five focus groups (3 with teachers and 2 with students).

School Priorities

- Reassurance and stability
- Academic outcomes
- Student wellbeing
- Digital learning practices to promote student choice, ownership, interaction and collaboration



[Access report](#)

Case 2 - Al Noori Muslim School

Al Noori Muslim School is a selective, co-educational Muslim school in Sydney for students from Kindergarten to Year 12. Data were collected onsite during Term 1, 2021 through a focus group with two key members of the leadership team, five focus groups (three with teachers, and two with students).

School Priorities

- Stability and consistency
- Visible leadership
- Community wellbeing
- Academic outcomes
- Staff collaboration and collegiality
- Digital learning practices



[Access report](#)

Case 3 - The Nature School

The Nature School is an independent primary school in Port Macquarie NSW, with enrolments currently from Kindergarten to Year 5. In 2021 the school's enrolment is 78 students (57 K-4 students in 2020). Data were collected onsite during Term 2, 2021, through interviews with the principal, four teachers and two student focus groups.

School Priorities

- Strategic digital approach faithful to school's core values
- Digital activities as segue to practical activities emphasising authentic and social learning
- Minimalist approach to live video-conferencing

Case 4 - St Philip's Christian Christian College (SPCC) DALE and DALE Young Parents



[Access report](#)

St Philip's Christian College (SPCC) spans six schools and caters for students from Pre-Kindergarten to tertiary level. This case study concerned two of those schools. SPCC DALE is a Dynamic Alternative Learning Environment for students with disabilities in Years 3 – 12. This special needs school is located in Newcastle and caters for students who have a diagnosis of anxiety, depression, PTSD, or autism. SPCC DALE Young Parents is an accredited special assistance school for young parents. It has two campuses located in Newcastle and the Central Coast NSW, providing flexible learning environments for stages 4 to 6 to any young parents. There is onsite early learning and care for their babies

whilst they study. Data were collected during Term 2, 2021 through a virtual focus group with two school leaders, virtual interviews with two teachers from each school, and a student focus group from each school.

School Priorities

- Connection and wellbeing
- Caring for students and families
- Combatting isolation
- Use of range of approaches to support and communicate with students and overcome digital access challenges

Findings unpacked



Key factors affecting remote teaching practices

- Acceleration of new digital solutions
- Blended learning approaches
- Technical support to drive new solutions and reduce disruption
- Staff collegiality and collaboration



Effective digital teaching practices during the remote teaching period

- Affording students' control of their learning
- Technology-supported explicit teaching
- Technology-supported peer learning



Practices to support student inclusion

- Approaches to address digital inequities
- Personalised approaches



Approaches to support teachers' wellbeing

- Staff communications explicitly targeting teachers' wellbeing
- School leadership and guidance on work-life balance and management of workload



Approaches to support students' wellbeing

- Frequent check-ins
- Online social interaction with peers was encouraged

A number of common themes emerged through the four case studies. These are discussed below, including reference to how they emerged for each participating school.



Key factors affecting remote teaching practices

Acceleration of new digital solutions

The 2020 emergency remote teaching period occurred with little time for planning or preparation. Teachers and students often had little experience of online learning and many schools had not implemented learning management systems at scale. In all four case study schools, although at very different stages of digital learning, the emergency remote teaching period was a catalyst for expedited technology integration. The technologies were carefully chosen based on their user-friendliness and to avoid minimal disruption to staff and students as they pivoted to remote teaching .

MERIDEN continued synchronous use of Microsoft Teams in the secondary and implemented SeeSaw in the junior school. Whole school made more use of school intranet.

AL NOORI teachers and students began to use Microsoft Teams extensively.

THE NATURE SCHOOL teachers learned to use Sway for learning activities and communicating multi-modally. Teachers and students learned to use Zoom.

SPCC DALE teachers accelerated their implementation of a new learning management system: Schoolbox.

Blended learning approaches

Most schools decided to avoid mimicking the structure of face-to-face teaching environments. This typically involved reducing 'live' online teaching where possible, and increasing the emphasis on more independent, self-paced learning tasks. As a result, a blend of synchronous ('live') strategies and asynchronous strategies was often adopted.

MERIDEN Senior School teachers aimed to strike a balance between keeping in contact with students and allowing a break from screen time. Asynchronous lessons in the Junior School included activities that did not require a digital device.

AL NOORI teachers utilised a 'flipped classroom' approach with students completing pre-class online activities to identify concepts that may need closer attention in 'live' classes on Teams.

THE NATURE SCHOOL adopted a mixture of 'tech and non-tech' strategies. Technologies adopted were Sway and Zoom, accompanied by take-home packs of learning materials. They called these 'learning showbags'.

SPCC DALE teachers adopted a hybrid 'live' approach, synchronising teaching of on-campus (face-to-face) and remote (Zoom) students.

Technical support to drive new solutions and reduce disruption

Study participants in all four schools reported on positive experiences with their schools' technology support of both teachers and students. This support was perceived by all participants as a critical factor in the effective and timely support of students' learning, and also in the reduced stress levels and the general wellbeing of staff.

At **MERIDEN** although the school already had digital learning platforms, school leaders organised professional learning for teachers with unfamiliar online platforms.

IT support at **AL NOORI** ranged from addressing the hardware needs of some staff and students to assisting families with home connection issues. An IT Coordinator was onsite for teachers at school.

THE NATURE SCHOOL

chose technologies strategically for accessibility by students and ease of use by teachers, allowing staff to undertake more targeted professional learning.

SPCC DALE made the last week of Term 1 in 2020 student-free to explore online learning strategies, with IT support personnel coaching and mentoring teachers to implement lessons online.

Staff collegiality and collaboration

Staff teamwork and sharing were emphasised by leaders and teachers at all schools as a critical factor in their successful remote teaching experiences.

At **MERIDEN** effective teamwork and a sense of community made a significant difference to the quality learning outcomes of the students.

At **AL NOORI** connected and collaborative approaches were modelled and supported by school leaders to leverage a strong sense of community.

At **THE NATURE SCHOOL** teachers were encouraged to seek feedback on digital learning activities from other staff members, to foster collegiality and consistency.

SPCC DALE staff met daily over Zoom to share experiences, reduce any anxiety, and solve unexpected challenges.



Effective digital teaching practices during the remote teaching period

Affording students' control of their learning

Most schools' digital practices aimed to enhance student agency in their learning, promoting student choice, ownership and control. This approach was key to strengthening the student-led components of blended learning approaches.

At **MERIDEN** approaches were designed to leverage student autonomy and lead students to more independent work.

AL NOORI students were encouraged to share resources, engage in peer discussion, and collaborate on shared designs.

THE NATURE SCHOOL supplemented digital approaches with take-home learning kits that allowed students to control the pace of learning, and where possible, work outside.

SPCC DALE teachers built capacity for independent learning by setting daily work and having students return work samples or photographs as evidence of their learning.

Technology-supported explicit teaching

Teachers used new media to support their explicit teaching. They found this process confronting and even intimidating at first but developed new skills to enact these instructional digital approaches. This included activities such as recording and sharing their own video-based instructions and explanations.

K-12 teachers at **MERIDEN** used Seesaw to connect with the children each morning via a pre-recorded 'welcome video' and there were pre-recorded instructions and explanations for many lessons.

AL NOORI teachers engaged students in online 'live' teaching sessions through whole class discussions, exercises, and exposition work.

THE NATURE SCHOOL utilised teacher-made videos for explicit teaching, which was succinct and targeted with respect to the learning outcomes they wanted their students to achieve.

SPCC DALE teachers shared a daily blog and ensured instructions for students on their online learning pages were well-structured and student friendly.

Technology-supported peer learning

Teachers at all four schools were conscious of the benefits of peer collaboration and promoted digital practices to leverage this process to enhance learning outcomes.

Music teachers at **MERIDEN** designed lessons that allowed interactions between students in the online environment, comprising singing, playing, moving, composing, and creating.

AL NOORI teachers found that students engaged in peer discussion and resource sharing before and after lessons.

Students at **THE NATURE SCHOOL** recorded photos of experiments and later shared these with the class over Zoom to promote larger group learning conversations facilitated by the teacher.

SPCC DALE teachers found some students with special needs were often more confident participating in online peer discussions, compared to conventional face-to-face discussions in the classroom.



Practices to support student inclusion

Approaches to address digital inequities

School leaders were conscious of students who may be disadvantaged in their learning due to constrained access to the internet and/or to devices. They adopted a variety of strategies to address this problem, depending on their own school's context.

MERIDEN students downloaded copies of their textbooks beforehand and junior school students accessed pre-recorded teacher videos, and printed workbooks were made available.

At **AL NOORI**, regular recording of lessons assisted with sibling device sharing. Teachers also supported students to use multiple devices, including mobile phones.

Teachers at **THE NATURE SCHOOL** limited use of synchronous learning and prepared home learning kits for students, with additional support and instructions provided in Sway pages.

A few **SPCC DALE** Young Parents had computers at home, many were reliant on using their phones. Teachers ensured that they spoke to the students by phone each day, as well as sharing lessons via email.

Personalised approaches

Teachers used technology to adopt individualised learning approaches where possible.

Teachers at **MERIDEN** adjusted learning contracts to suit particular students. Some students with specific learning needs were able to learn on campus.

Teachers at **AL NOORI** were concerned about students being 'left behind' and instituted individual remedial support sessions before and after school.

THE NATURE SCHOOL teachers planned for small group Zoom calls to cater for the different groups of students and to differentiate learning activities where required.

Teachers at **SPCC DALE** created individual learning plans for students and some students had the option of learning on campus.



Approaches to support teachers' wellbeing

School leaders recognised the potential for increased staff stress and anxiety emerging from the pivot to remote teaching, and from the isolation experienced during the lockdown period. They adopted a range of approaches to support their teachers' wellbeing and to minimise these risks.

Staff communications explicitly targeting teachers' wellbeing

School leaders asked their staff to meet frequently to maintain collegiality, combat isolation and check-in with each other. A sense of humour was integral to these meetings.

Teachers at **MERIDEN** used MS Teams to meet regularly with colleagues as a staff, or in smaller teams, to support each other.

At **AL NOORI**, extensive communication and visible leadership helped to create a positive staff mindset and ease anxiety.

THE NATURE SCHOOL leaders held frequent staff Zoom meetings, always beginning with a check-in to gauge how teachers were feeling.

The **SPCC DALE** staff would debrief every afternoon via Zoom and there was often a fun element to the session.

School leadership and guidance on work-life balance and management of workload

The leaders of all four schools recognised the need to manage staff workload. It was important to set boundaries for both teachers and parents regarding expectations.

MERIDEN set clear expectations and boundaries so that teachers managed their time in a reasonable way and had 'a start and a finish time' to the school day.

At **AL NOORI** there was a clear endorsement of staff managing a healthy work-life balance and not being 'available 24/7' online.

At **THE NATURE SCHOOL** the principal attempted to provide flexibility, rostering staff on and offsite depending on their personal circumstances and needs.

The **SPCC DALE** staff recommended a clear structure to their working day, delineating between school time and family time.



Approaches to support students' wellbeing

All schools already treated their students' wellbeing as a fundamental responsibility before the pandemic. However, they needed to adopt a range of new, context-specific approaches to continue their high level of student care during the remote teaching period. This care was often extended to students' families.

Frequent check-ins

At **MERIDEN** informal check-ins by teachers assisted in supporting student wellbeing.

Two welfare coordinators at **AL NOORI** were on the phones during the day just checking in with students, providing welfare checks if students' attendance warranted them.

Most Zoom sessions at **THE NATURE SCHOOL** combined a teaching and wellbeing purpose.

Wellbeing assistants at **SPCC DALE** co-facilitated learning with teachers. Teachers at both DALE schools checked in frequently with students and families.

Online social interaction with peers was encouraged

Supporting students' social interactions through online technologies was seen as a critical way to keep them connected and to combat isolation.

At **MERIDEN** peer interaction was encouraged through pastoral care groups.

At **AL NOORI** teachers encouraged students to communicate and collaborate online regarding homework and other class topics.

Small group Zoom sessions at **THE NATURE SCHOOL** were partly for students to be able to see their friends, say 'hello', and check how they were progressing.

SPCC DALE teachers encouraged students to maintain their social networks through peer interactions via Zoom and through enjoyable tasks that students could do together.

Recommendations

The common themes that emerged from the data informed the set of recommendations made in this section. Although each school had its own context-specific needs and challenges, these suggestions may be useful to inform other schools' practices during future lockdowns. Their future-focused lens can also speak to post-pandemic practices in support of ongoing quality of teaching and wellbeing in uncertain times. These recommendations are interlinked and point to schools preparing for a more flexible mix of synchronous and asynchronous digital pedagogies to promote student agency and peer learning.

1

Recommendation 1: More permanent adoption of blended learning approaches, with an emphasis on self-paced, self-controlled digital learning activities`

Most schools in this study tried to minimise 'live' online teaching during the remote teaching period, as they strived for a delicate balance between synchronous and asynchronous digital learning approaches. There was a preference to emphasise greater student agency in tasks that would inevitably be completed by students at their own pace at home. Many students enjoyed the extra control and choice inherent in such digital tasks. Given the wealth of literature supporting the benefits of student autonomy for quality learning (e.g. Reeve, 2009), this trend is educationally sound. However, before schools inevitably 'pivot online' over expected periods of isolated lockdowns, students need to become more familiar with these tasks. They also need to be more comfortable with the extra independence that accompanies self-directed learning, and provided opportunities to develop (and reflect on) the self-regulation skills required for successful engagement with these tasks. Teachers also need a chance to refine their own designs and implementation of student-controlled, self-paced digital learning tasks. This includes time to rehearse the nuanced facilitation skills required to mediate students' learning in these types of activities.

Illustrative examples

Some teachers in this study, particularly secondary teachers, observed increased productivity during the remote teaching period when there were fewer interruptions. When the students were at home, teachers noticed that they got more work done. Some of the schools are now considering timetable adjustments to enhance student agency. Meriden School was planning to allow their senior school students one day per fortnight to work independently at home. Some St Philip's Christian College DALE students were identified as working more effectively at home during the remote teaching, and the school is planning how to better cater for some students' special needs. DALE teachers found that some students whose attendance was quite low prior to COVID-19, were more engaged than they were previously. The teachers are now considering how they can use these observations to benefit the learning of these students as we move into a post-pandemic phase.



St Philip's Christian College DALE

Blended learning approaches can help to enable more agency from students in their learning, which can be further supported through active participation and co-ownership from parents and carers. Flexible practices from school administrators who need to make timetable changes can assist in enabling more student-controlled learning.

2

Recommendation 2: More frequent experiences of technology-supported peer learning to prepare students for future remote teaching periods

Teachers' online discussion facilitation skills are important to support quality learning conversations in virtual spaces and on school mandated platforms. Increased confidence with these digital approaches will improve the online learning component of schools' new blended learning structures, enhancing teaching, learning and wellbeing in future lockdowns and in post-pandemic schooling.

Teachers at all schools in this study were conscious of the benefits of using technology to support quality peer learning. Their rationale was to support engagement in learning, and to optimise social interactions for students' wellbeing. Although these approaches are familiar to teachers in face-to-face school campus settings, the remote setting was new to some teachers. This included the use of video-conference facilities and cloud-based software to leverage online peer collaboration and teamwork.

3

Recommendation 3: More staff professional learning opportunities to improve current practices and prepare for new digital approaches

Regular professional learning is needed to effectively adopt the previous recommendations for enhanced blended approaches and use of technology to support student autonomy and peer learning.

Teachers in this study emphasised preparation, professional learning and keeping a sense of humour as a central lesson taken from their remote learning experiences. The emergency remote teaching period in 2020 was particularly difficult due to the short period of time available for preparation. Teacher participants in this study acknowledged the importance of regular professional learning opportunities for enhanced preparation and skills development. This included a focus on school-endorsed learning management systems, and new media production needed to produce videos and other digital resources for students.

Further support

Teachers may wish to seek feedback on new or adapted digital tasks being used with their students. For teachers who would like automatically generated feedback on the pedagogical strengths and weaknesses of such tasks, including the extent of student agency and peer learning, we have new professional learning surveys available for use at <https://www.ipacmobilepedagogy.com/teachers-specific-task-survey/> (Kearney, Burden & Schuck, 2020; Kearney, Burke & Schuck, 2019). Upon completion, these validated surveys yield a unique and detailed report, including an innovation score, for professional learning purposes. There are also validated student surveys eliciting students' views of their learning experiences emerging from their engagement with digital tasks. For more information on the *innovative* use of digital technologies, see Burden, Kearney, Schuck & Hall (2019), or visit <http://www.deimpeu.com>

4

Recommendation 4: Families need to be an integral part of schools' planning and preparation for future lockdowns

The schools in this study invested considerable time in providing enhanced support to families during the school lockdown period. This extra effort was initiated by school leaders in recognition of the key but unfamiliar role that many parents were adopting as facilitators of their children's learning, particularly in primary schools. The extra support was also in acknowledgment that family wellbeing was at risk due to the isolation, particularly for parents trying to balance their own work and family commitments. Therefore, in preparation for future lockdowns, short or long, it is valuable for parents and carers to be included in school discussions of teaching and learning initiatives. This includes opportunities to develop digital skills associated with the use of school-endorsed online learning platforms. Doing so can enable a more seamless pivot to future remote teaching periods. Extra communication with parents and carers, along with enhanced involvement by them, can also contribute to a more participative and enriched school community in a post pandemic world.

For more information about the four Case Studies discussed in this report as well as other publications relating to remote learning, please visit the [AISNSW Opportunities out of Remote Learning](#) page.

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Meriden Anglican School for Girls

Digital practices to support learning

June 2021



Acknowledgement

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Research Team

Associate Professor Mathew Kearney is a researcher in the area of technology-enhanced learning. His main research focus is on innovative technology-supported learning in K-12 and teacher education contexts. He is leader of the initial teacher education discipline in the Faculty of Arts and Social Sciences at UTS, and a senior researcher in the Faculty's Centre for Research on Education in a Digital Society. He has published 11 book chapters and 35 journal papers, and is lead author with two colleagues of a new Springer book titled *Theorising and Implementing Mobile Learning*. Kearney was part of a 3-member team that won first prize at the 2019 European e-Learning Excellence Award.

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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.

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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-six NSW independent schools.
- **Data collection** – Term 4, 2020 and Term 1, 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 primarily collected remotely.

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.



MERIDEN

AN ANGLICAN SCHOOL FOR GIRLS

- Non-selective, independent school for girls
- Pre-Kindergarten to Year 12
- Enrolment: approx. 1300 students
- 1% indigenous students and 67% from a language background other than English.

Source: www.myschool.edu.au.

About Meriden

Meriden is the first case study undertaken as part of the broader research project, with data collected during Term 4, 2020.

Data were collected through interviews with four key members of the leadership team, five focus groups (3 with teachers and 2 with students), and a student survey of 150 Year 8 students about their Year 7 experience of remote learning. Artefacts were also collected, as well as samples of student learning and school policies.



Meriden Case Study Data Collection

Interviews:

- 30-minute semi-structured interview with Head of Junior School (Michele);
- 30-minute semi-structured interview with Head of Teaching and Learning in the Senior School (Christine);
- 30-minute semi-structured interview with the school music director;
- 30-minute semi-structured interview with Year 2 teacher.

Teacher and student focus groups:

- 30-minute focus group with two Junior School teachers (one teacher was also Dean of Inquiry Learning);
- 30-minute focus group with two Senior School science teachers;
- 30-minute focus group with two Senior School creative arts teachers;
- 30-minute focus group with six Year 7 and 8 students (also attended by their teacher, Christine);
- 30-minute focus group with five Year 2 students (also attended by their teacher).

Student survey:

- 150 Year 8 students (in relation to their Year 7 experiences of remote learning)

Research Findings & Insights

The main aims of the school during the remote teaching period were to provide reassurance and stability to students and their families, and to continue a focus on academic outcomes and student wellbeing. Staff collaboration and enhanced collegiality were central to this balance. School leaders gave staff autonomy to adapt policies to their own context, and the school culture facilitated the need to embrace change and enable innovation.

Digital learning practices enacted during remote learning and beyond promoted student choice, ownership and control, and were designed to support meaningful interactions and collaboration. Staff frequently used new media for explicit teaching, and students received timely multimodal feedback on their learning. Another feature was students' engagement in authentic learner-generated video projects. Creative strategies were adopted to support engagement and student wellbeing.

School priorities for the remote teaching period

> SENIOR SCHOOL

Shifting from reassurance to a balance of academic outcomes and student wellbeing.

The initial aim in the Senior School was to provide reassurance to staff and especially students, to give a sense of continuity and confidence that routines would be as normal as possible during an uncertain and concerning time. For this reason, the Senior School kept the structure of the school day and followed the usual timetable for lessons. Students were required to wear their uniforms at home to create a sense that they were at school undertaking learning. Each student from Years 7 to 9 had a school-supplied laptop, which they normally used in class and at home every day. Students in Years 10 to 12 had their own devices (BYOD) for use at school and at home. As the remote teaching period progressed and as confidence levels increased, the goal changed slightly to focus more on achieving academic outcomes and using precious curriculum time effectively. This took place while concurrently monitoring the students' well-being.

Maintaining personal connections.

The school was already using a Schoobox Learning Management System (LMS), called 'eVe', with which both teachers and students were familiar. The school added Microsoft (MS) Teams to their IT infrastructure so teachers could effectively communicate with the students. Teachers considered the visual contact through the video-conference facility in Teams as particularly valuable: **"We were conscious of not too much screen time but we did want to be able to see the girls and have that personal contact with them"** (Christine, Head of Teaching and Learning: Senior school, Interview). To avoid excessive screen time, the school encouraged Senior School teachers to touch base with the students at the beginning of their lessons, perhaps with some kind of explanation. They would then set learning for the students to do independently, before coming back together via MS Teams prior to the end of lessons.

> JUNIOR SCHOOL

Adapting routines, providing meaningful work and a sense of stability.

The broad aim of the Junior School during the remote teaching period was to provide students with regular meaningful work to minimise disruption to learning and to provide a sense of stability and productivity for students. Unlike the Senior School, where the students were used to working on their own devices and were old enough to self-manage working online in a similar timetable structure, the Junior School staff acknowledged there would need

"We were conscious of not too much screen time but we did want to be able to see the girls and have that personal contact with them" (Christine, Head of Teaching and Learning: Senior school, Interview).

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to be a change to the children’s normal school routine. There was a deliberate decision not to engage in synchronous teaching online, as they wanted to adhere to the Junior School’s Internet and Child Protection Policy. For example, they had concerns about supervision of students while online. They also wanted to minimise pressure on families, in terms of requiring children to be on a device at a scheduled time. Therefore, Junior School teachers set daily work that didn’t necessarily need to be completed online. This approach **“reduced family stress and that was an important contributor to the wellbeing aspect, that families could take what we were doing and adapt it to suit their particular circumstances.”** (Michele, Head of Junior School, Interview).

Minimising disruption through device familiarity.

The Junior School students were accustomed to learning in a technology rich environment, using banks of school-owned iPads and laptops in classrooms. Although there was a special invitation for some Year 4 to 6 students to borrow a laptop for the remote teaching period, it was generally assumed that the children would access a family device at home. Using online technologies that the students were already familiar with, helped to minimise disruption during the emergency remote teaching period. The Junior School used the Seesaw digital portfolio as the main way of communicating with Pre-Kindergarten to Year 3 students. Years 4 to 6 used a combination of Google Classroom, as well as Meriden’s previously mentioned Schoolbox LMS, eVe. The teachers were able to upload carefully prepared videos, so the children could still see and hear them at the start of each day, and the students could submit evidence of their learning and receive multimodal online feedback from their teachers. The requirement to submit learning through each day allowed the teachers to monitor student progress, and meant that the students received frequent and quality feedback on their work.

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Key factors affecting remote teaching practices

Effective technology support and infrastructure assisted a seamless transition.

The school is well-resourced, and all participants perceived that the IT infrastructure and support was most helpful in their transition to remote teaching. The school already had digital learning platforms for all age levels and staff and students were familiar with these platforms and comfortable learning with these online technologies before the pandemic. The school had invested in professional development with the school’s LMS (eVe) prior to 2020, and when it became apparent that teachers would likely move to emergency remote teaching mode, school leaders organised appropriate professional development for teachers with other online platforms.

Staff collaboration and autonomy enhanced practice and collegiality.

Many teachers attributed their accomplishments during the remote teaching period to working collaboratively and autonomously. The teachers used MS Teams to meet regularly with colleagues as a staff, or in smaller teams, to support each other. This ongoing online peer communication helped create a sense of staff collegiality and support during the remote teaching period.

Teachers also developed a renewed appreciation of the varied skills within their disciplinary teams and the importance of teacher teamwork. Different team members led their discipline-based groups in areas of specific expertise (e.g., video-making and other media production skills, design of online resources), thus supporting others in their team. Teachers enjoyed considerable autonomy in these teams and had the freedom to problem-solve within broad guidelines written by school leaders.

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Provision of time to develop staff confidence.

Giving teachers time to develop their confidence levels with online teaching was also perceived as important. Initially, there was no expectation that staff would work at home so those teachers who were less confident were able to continue to work on the school campus during the start of the remote teaching period. These teachers were able to seek additional assistance from colleagues and IT support staff. Later in the lockdown, when all teachers were required to work at home, these teachers felt more confident teaching in an online environment.

An agile mindset helped staff to embrace change and enable innovation.

Teachers acknowledged that it was not possible to provide the same school experience as students had in the classroom by using technology, so the challenge was to adapt planned lessons to suit a remote learning environment. For example, teachers used video explanations and Seesaw activities, and shared their experiences with colleagues to refine their practice over time. An agile pedagogical mindset regarding online teaching emerged, based on the premise that there was an urgent need to adapt to an online environment rather than replicate classroom environments.

“I think pedagogically the approach that we took was we needed to innovate rather than replicate so we went in knowing it is actually not possible for us to provide the same school experience using technology as if the students are in the classroom. So, the teachers put a great deal of thought into how to adapt planned lessons to an online environment and I think that certainty helped. ...teachers just needed to refine their practice as they went along.” (Michele, Interview)

Undertaking fully remote teaching necessitated some changes to planned programs. For example, the Creative Arts program for Year 7 and 8 focused on ceramics. Within the space of a week, those teachers completely rewrote all their programs to suit online learning. For Music teachers, the biggest challenge was regarding performance and collaboration. Since groupwork plays a big part in the syllabus, rethinking how they enable this was quite challenging for the teachers. It was virtually impossible to play ‘in time’ due to online delay, so teachers had to change their thinking about the way students could keep playing their instruments and still provide interactive experiences.

Early and ongoing student evaluations informed planning.

A small group of students who continued to work on campus in the first part of the remote teaching period played an unexpected enabling role. Initially, the school had a few groups of students who were unable to work at home. These students physically attended school and conducted their online learning on the school campus. During this initial period, many teachers were still on campus and were conducting their online lessons in their classrooms while supervising these students. They were able to observe their engagement with online learning activities and received valuable evaluative feedback about what worked and what did not: **“... we had little focus groups in the room all the time saying I don’t understand”** (Michele, Interview). This process provided valuable information about students’ online learning more generally.

New approaches to managing the volume of feedback.

A major challenge for all teachers was the increased volume of feedback required on student learning, due to teachers encouraging students to submit evidence of learning in the online learning environments. Strategies were put in place to manage the implication of this, including clarity of

expectation around what feedback will be provided, and the use of strategies such as peer marking. Students appreciated the extra time teachers were investing to make their online experiences interactive:

“Although we were in lockdown, the teachers really worked hard to make sure it was still an interactive learning environment. So, although we were uploading things, they still were able to respond quite quickly to our questions and give us feedback.” (Year 7 Student from Focus Group)

Clear communication with families enabled positive and effective learning.

Enabling digital communication channels with parents and students was critical. Although parents and students did not normally have direct email access to teachers, this policy was relaxed during the remote teaching period. The parents were supportive of school initiatives during this time due to clear communication of procedures. Indeed, parents and carers became increasingly appreciative of the teachers’ engagement with their children, with the online environment providing **“a little window for them to see inside what a classroom might be like”** (Christine, Interview).

Use of pre-recorded video provided flexibility for families.

Junior School teachers understood that the younger children were sharing devices at home with siblings and they did not want to put pressure on them by insisting that at a certain time they had to be logged into a lesson. So, pre-recorded videos that the children could access at any time worked well and provided some flexibility for families.

Ensuring a healthy balance of screen time and non-digital activities.

Preventing students from having too much screen time was a challenge to be overcome throughout the school. This was managed in different ways according to the age of the students. In the Senior School, the challenge was to strike a balance in the online environment between keeping in contact with the students while allowing a break from screen time.

“We were trying to juggle giving them that sense of contact with their teachers but also not too much screen time, we didn’t want them glued to the screen all day every day because that creates other problems then. So, that was a little bit of a juggle.” (Christine, Interview)

Synchronous lessons in the Senior School included activities that did not require online activity and asynchronous lessons in the Junior School included many activities that did not require a digital device.

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Effective digital practices during the remote teaching period

Providing choice, ownership and autonomy in learning.

Approaches were designed to leverage student autonomy and lead students to more independent learning.

The Years 7 to 9 Creative Arts programs were designed to give the students choice and ownership over their remote learning. Students could choose four of the eight units of work on offer, including options such as photography. The teachers ensured that there was equity between the units of work. There was also flexibility, so that if a student was not present for the online lesson, they could still participate in the whole unit of work because all of the resources were online. Resources included a video that catered for different levels of learning. This video was supplemented by a worksheet as well as a vocabulary list. A student from the Senior School Focus Group appreciated being able to control these types of video resources: **“I think putting videos online was really good because you could slow them down, you could re-watch them, you could pause them and that’s something you can’t really do in real life without disrupting the class.”**

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(Student. focus group)

Teachers in the Junior School were not conducting synchronous online teaching, which allowed the parents and the students to plan and create their daily routine in the way that suited them. Because some parents said that they found it quite overwhelming to receive the dayplans in the morning and they needed more time to organise their day, teachers began to send the dayplans the afternoon before. The teachers endeavoured to record lessons that were explicit and set the children up for success so that parents' involvement was minimal. (Although, parents of younger students sometimes facilitated filming and sharing of their child's performances and digital responses.) Teachers did not design any lessons that required parents to go out and purchase materials, and they tried to get students to use objects that could be easily found in the home (e.g. in science).

Using new media for explicit teaching and support of flexible learning.

In Years K to 2, the teachers used Seesaw to connect with the children each morning via a pre-recorded 'welcome video'. The children were also sent a dayplan, which had a list of all the lessons with time allocations on how long to spend on each lesson. At the beginning of the remote teaching period, teachers simplified these by including fewer lessons and more 'brain breaks' to ease the students into this new style of learning. By the end of the first week students had adapted well and were able to complete more independent work. It was new for the students to learn independently by following a dayplan, and working through it at their own pace, however their knowledge of the Seesaw learning platform assisted to some degree.

There was a specific video pre-recorded for most of the lessons throughout the day, including a welcome video. As an example, for English, a video was provided of the warm-up activity and the main activity, and the video then instructed the students to take a photo of their learning and send it back to the teacher. If teachers felt that the children did not complete the tasks correctly, or the lesson objective was not met, they would have a follow-up lesson the next day.

Designing learner-generated video projects to enhance authentic learning.

Digital activities in Creative Arts aimed to harness the students' lived experiences of remote lockdown. The staff felt that it was important for students to engage with activities that were relevant and current, that what was happening at the time was of such significance that it warranted the rewriting of programs. The result was that lesson materials, subject matter and content were context-appropriate and relevant to students. An example of this was a Year 11 video unit called Beyond My Vision where the students in lockdown had to create videos that were based on their personal experience of living in isolation. The teachers had not taught using video in this way before, but they thought it was a worthwhile challenge when they saw the way that students documented their personal experiences. The students documented these experiences in authentic learning episodes.

The teachers felt that promoting the video project option with their senior students benefited both their teaching and learning programs and the students. The Year 11 video project initiated in the emergency remote teaching period helped to prepare students for Year 12 because it broadened the areas of learning and helped them to see the possibilities of what they could do for their Body of Work for Year 12, beyond painting or drawing. Teachers expect that more students in the 2021 Creative Arts cohort will choose a video project for Year 12 because they have become more familiar with these types of projects in Year 11.

For a mixtures and solubility experiment [\[link to example\]](#), a science teacher required students to use substances found in the home and take photos of their setups [\[link to example\]](#) to check their progress and understanding of learning. The students would also fill in, update and upload a prepared notes page, visible to the teacher. Students were taking notes 'on the fly' as they went through the topic and the teacher could see whether they had any misconceptions, or if there were any problems. Two physics teachers

collaborated and filmed several experiments for demonstration purposes in forthcoming modules. The students also filmed their experiments, so teachers were able to watch their video, make sure they were completing tasks accurately, and then look at their answers and their explanations of what had happened. This provided opportunities for formative assessment.

In the performing arts, teachers found that the participation levels increased for video activities because the students were not intimidated by performing in front of their peers. These tasks were so successful that the school now continues to use video-based performances. A benefit for the teacher is the ability to spend more time listening to the students one-on-one and then give tailored feedback via the school Learning Management System (LMS).

...teachers could give feedback quickly and the feedback was captured as a record for later reference. Teachers also had a timetable detailing on which days they would post videos and which days the students would do different samples of work.

Providing timely and purposeful multimodal feedback.

Timely and frequent technology-supported feedback procedures were a feature of approaches adopted across the school.

Each day the students had to submit their work online and teachers would then decide for which pieces of work they would provide extensive feedback, and for which they would merely record that a task was completed. This meant that, as work came in, teachers could give feedback quickly and the feedback was captured as a record for later reference. Teachers also had a timetable detailing on which days they would post videos and which days the students would do different samples of work.

One task for Stage 1 students was in one of the booklets emailed to parents. The children had to complete the task in the printed booklet after watching a pre-recorded video. Then they had to write their own procedural recount [\[link to example\]](#). The student shown in this example wrote her procedural recount and then colour-coded it in the same manner that the teacher did in the modelled lesson. The teacher provided feedback on the students' work by video, mimicking the feedback process in a live class setting. Through this process, each child received video-based, individual feedback that enabled them to eventually publish a revised version.

Student-generated video recordings of performances were regularly submitted to music teachers for feedback. For example, music teachers would ask the students to upload a video of themselves singing short melodic phrases. Students were also asked to film and share performance activities that they were doing. Conductors of the school's ensembles would watch video of the students playing their part and comment on how they were progressing. The students liked being listened to one-on-one, and receiving individualised feedback. Such individual feedback is less common in face-to-face ensemble activities.

Promoting interactions and collaboration through deliberate learning design.

Music teachers were eager to avoid too much change to the students' learning activities. As result, they designed lessons that allowed interactions with the students in the online environment. These focused primarily on singing, playing, moving, composing, and creating. Music teachers deliberately decided to avoid remote learning activities such as research activities, 'make your own instrument at home' or project-based learning tasks. For secondary school music, it was expected that every student would turn on their camera in MS Teams, say hello to the teacher and keep their camera on for the whole learning session. Often the teacher would stand up in front of the camera and deliver the lesson to mirror a face to face classroom environment as much as possible.

Science teachers felt that some interaction was lost during online learning, so following up with a quiz helped them to know whether the students understood concepts being explored, or whether further revision was required. From Year 7 to Year 12, teachers noticed that students who were normally reticent suddenly felt more confident to contribute to class discussions: **"They felt like they could ask something and they weren't going to be drowned out by the students who were more confident"** (Science teacher, focus group).

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At the start of a typical online science lesson, teachers would set the students some sort of independent research task. About 20 minutes before the end of the lesson, students would meet the teacher in a video meeting on Teams to discuss their work and talk about ideas. Teachers took this opportunity to address any misconceptions that students may have developed. Throughout the lesson, the teacher had a synchronous chat set up so that the students could ask questions of peers and the teacher. A Year 8 student participant in the student focus group said she appreciated this opportunity to ask questions, as needed: **“Teachers did stay on Teams and if you had any questions it’s really easy to just turn on your microphone, ask them about something and they would explain it really well to us.”** Because there were not a lot of opportunities for group work while students were at home, the teachers used Padlet so students could brainstorm ideas as a class, and so all the students got to share different ideas and readily see others’ ideas, as shown in this [example](#). Google Docs was also used for group tasks, so that students could share their ideas as they would do in a classroom. The students enjoyed using cloud-based collaborative platforms such as Padlet or Google Docs to brainstorm together and it provided a more permanent way of documenting ideas, in contrast to the verbal discussion that would normally have taken place in the classroom.

Practices to support student inclusion

Continued focus on differentiation and individualisation of learning.

During the remote teaching period, teachers continued to emphasise the importance of differentiation. The evidence of learning that was uploaded to Seesaw was differentiated, as opposed to being part of a whole class approach. Junior School teachers would write a learning contract, but this would be adjusted to suit particular students. The learning support teachers would also look through the teachers’ planned contracts and make suggestions for scaffolding activities according to specific needs of students.

Flexible approaches and on campus learning were offered to targeted students.

There were some students with specific learning needs who teachers felt might be better off learning on the school campus. In these instances, the school contacted parents to let them know that the option was still available if they wanted their child to work in a more structured environment. Some parents did take up that offer. Other candidates for on-campus learning were children finding it hard to work at home, who had parents working or who had distracting siblings. Parents of students in these situations appreciated having this on-campus option.

Preparation minimised issues arising from reduced or inconsistent technology access.

To address possible connectivity problems leading to digital inequity, the school ensured beforehand that the students had downloaded copies of their textbooks and knew which were the relevant chapters to be covered. Students knew that if there was a day that they could not be online, they could look at the textbook offline to see where they were meant to be. Having access to pre-recorded teacher videos also meant that students could download them and work through any learning they missed at any time.

Learning was explicitly designed to minimise reliance on technologies.

Years K to 3 teachers sent workbooks home for printing. Apart from receiving the email of the dayplan, in many cases technology was not required for a significant part of the day. Central activities such as reviewing a page of a booklet and writing a story on the content, was a technology-free activity. Students were then only required to login to Seesaw to upload a photo of the learning they had completed. Teachers also understood that not all families had access to a printer, so hard copies of workbooks were also provided. These were available to collect from the school, or staff would deliver them to the parents if required. In this way, teachers catered for all students so that none missed out on learning during the remote teaching period.

Approaches to support well-being

Clear expectations and boundaries for staff regarding start and finish times, and for student feedback.

Teachers were instructed to manage their time in a reasonable way and to make sure they had 'a start and a finish time' to the school day when they were not online giving feedback to students or communicating with parents. Although students' and parents' email access to teachers was opened up during the school lockdown period, there was an expectation that communication ended at the normal school finishing time. Teachers were encouraged to only respond to parent emails during the normal weekday office hours of 8am to 4pm. Senior staff would also touch base with teachers each day either by phone or through MS Teams, so that they did not feel isolated, maintaining a sense of community.

Policies were essential to ensure privacy for both educators and students.

The school had policies in place about teachers not having one-on-one video conversations with the students. Teachers did however welcome emails and separate chats from the students on MS Teams, allowing them to raise issues they wanted to address with teachers privately. Students were required to be working in their school uniform or sport uniform if they were uploading videos of themselves, or participating in a Teams video-conference. The Year 7 and 8 Student Focus Group participants believed that being in school uniform helped to place them in the right mindset and maintain focus.

Creative strategies were explored to support engagement and student wellbeing.

Junior School teachers used a variety of strategies to support students' well-being. They understood the need for 'brain breaks' throughout the day and read numerous stories to the students. These teachers explored creative ways to welcome the children each day in their own videos, whether that was dressing up as a character or wishing someone a happy birthday during pastoral time.

In the Senior School, having the teacher speak 'live' with students via Teams at the beginning of the lesson was seen as important for wellbeing. Teachers also tried to make sure that they checked in with each student during the week. The school has a pastoral care system where the students have a tutor, who stayed in contact so they felt a sense of connection and they were not isolated at home. In the Senior School, teachers and students met on Teams where some talked about, or showed their pets so the teachers were able to get to know the students on a different level. The Year 7 and 8 Focus Group participants said that they also kept in contact socially through their devices, with this being supervised by parents. In lieu of pastoral time that normally occurred at the start of each day, Junior School teachers uploaded their welcome videos and would sometimes ask the students to contribute content via Seesaw.

The Creative Arts department changed all of the programs so they focused on COVID and isolation and lockdown to connect with the students lived experience and make tasks more relevant. Year 7 and 8 did photography based on their inside world, and Year 11 created a video called Beyond My Vision, based on the personal experience of isolation.

Informal check-in by teachers assisted in supporting student wellbeing.

Checking in or just saying "everything's going to be okay, we're here to support you" were the kinds of comments that students really valued. This appeared to alleviate the pressure on Year 12 and the feelings of stress, as well as opening up a space for the students to feel safe enough to say, "oh I'm stressed out, I'm really struggling". By doing so, opportunities also arose for staff to implement strategies in managing learning expectations by saying, "look, let's just get this done, then when you come back we'll do this, this, and this, you can't do that now". Frequent check-in by staff was clearly appreciated, with a Visual Arts teacher reporting the gratitude expressed by students when they did so.

Physical activity and connecting with a range of students were prioritised.

The Year 7 and 8 student participants enjoyed being active during PDHPE lessons. They indicated that the PDHPE teacher would split them into small groups and set a video to follow. Students would turn their cameras on to do the assigned fitness exercise. The students found this a happy time, which felt different to all the other classes, because they were going outside and interacting with other people. These same students said their Year Coordinators put a lot of work into getting everyone to interact, including arranging for the students to do activities with other people in their House or class.

Practices continuing beyond school lockdown period

Use of an electronic plan.

Junior School teachers realised that many students look for certainty and like to have a plan of where they're going in terms of their learning, so now teachers tend to use the e-blog to put up a plan for what they are going to do over the next several lessons, just so that students know what's ahead of them. This also helps if a student is unwell as they know what they are likely to miss.

Timetable adjustments to enhance student agency.

Secondary school teachers saw increased productivity during the remote teaching period when there were fewer interruptions. When the students were at home, teachers noticed that they got more work done. Subsequently, Year 12 students are now working from home one day a fortnight. It's also an opportunity to bring groups of students into campus, if necessary, for smaller group work. For example, for students completing major works, it is an ideal time for them to spend a couple of hours with their teachers, to work for a sustained time on a project. Students do not have to commute; they can work independently and spend sustained time on tasks at home. **"That's a positive that's come out of the remote teaching experience and it would not have happened without that experience."**

Enhanced use of video for explicit teaching.

All teachers throughout the school are far more proficient with designing and using instructional videos. Indeed, the students have improved their ability to listen to and follow instructions, including video-based instructions. Teachers are now making more use of pre-recorded videos co-created with colleagues. So instead of face-to-face verbal instructions and explanations, they can say to the students 'we've made a video, so for today's lesson these are the instructions', and this allows the students to work at their own pace. This growing collection of videos constitutes a big resource development initiative resulting from lockdown. Teachers have found it more efficient to have pre-recorded videos to introduce a topic and go over particular texts, spending less time repeating instructions. **"They all just do it now"** (Michele, interview).

The Junior School teachers are using Seesaw in different ways now, knowing that they can pre-record concepts and lessons so that children, if they're struggling in the classroom with a particular topic, can go and re-watch a teacher-made instructional video at their own pace, for example, on how to measure with a ruler, or how to use expression when they're reading.

There was also a perception that the increased levels of video production have helped teachers to be more aware of their teaching, for example, how they explain concepts. At first it felt unnatural to video record themselves, but they reflected on how they spoke, how much expression they used, and they have become better teachers because of this.

Increased use of e-portfolios and targeted online feedback.

Young children were comfortable capturing their own learning, so they provided a photo or a work sample and then they talked about what it is that they have learnt from that experience. K-6 teachers are now using the e-portfolio more with students, who are uploading their work, so teachers are not physically collecting as much paper-based work. Teachers are more proficient at using the digital portfolio facility, setting work and giving personalised feedback in this online space. There is now more use of technology to enable peer feedback, which teacher participants in the study considered to be beneficial.

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There was also a perception that the increased levels of video production have helped teachers to be more aware of their teaching, for example, how they explain concepts.

“Teachers really learnt to use targeted feedback effectively and to give clear descriptive feedback rather than evaluative feedback. I felt in terms of professional growth in giving feedback I saw more progress in four weeks of online learning than exploring that topic at other times.” (Michele, interview)

Christine noticed secondary teachers are more frequently using online technologies to support peer feedback strategies: **“I think there’s more use of technology to enable peer feedback.”**

Contemporary thinking about authentic, purposeful learning design.

Finally, some teachers believed they had a refined attitude to homework, changing tasks to be more purposeful and authentic. Rather than thinking of homework as being mainly for consolidation, they were thinking more creatively about homework tasks. For example, there is an increased awareness from science teachers that students have materials at home that can be utilised to conduct mini experiments.

Participants’ recommendations and lessons learned

School context and student need informs pedagogical choices.

Participants suggested that schools need to work within their own context and do what is best for their own unique student cohorts. In this brief period of remote teaching, Meriden decided against a more liberal remote teaching structure, such as adopting a broader problem-based learning approach that required less teacher contact. Instead, they adopted teaching approaches that students were familiar with and emphasised regular contact and interaction with students throughout the day. This strategy worked well, but would have possibly needed re-assessment if the remote learning period had continued.

Capitalise on existing knowledge and skill development.

Schools need to work with what teachers are familiar with, rather than introduce too many new platforms and systems. School leaders’ advice was to: **“work with what you have, with what you know works for your community... start small and then grow what you’re doing”** (Michele, Interview). While they perceived that the technology worked well, if they were in the same situation again the school might have approached the initial preparation period differently to minimise the extent of change experienced.

Bring diverse skillsets together through collaboration.

There was strong advice for teachers to work collaboratively with other staff, always mindful of quality student learning outcomes as the primary goal. They recognised that teachers bring their own complementary skill sets to these situations, and this diversity of skills needs to be enabled: **“Everyone has got such different skills”** (Michele, Interview). Although such collaborative work may require more meetings, the experience at Meriden was that effective teamwork and a sense of community made a significant difference to the quality learning outcomes of the students during the remote teaching period.

Promote open and flexible approaches.

The agile mindset, problem-solving, and flexibility of both students and teachers at Meriden helped to foster the positive remote learning experiences. They recognised that in remote teaching mode, attempting to recreate the face-to-face classroom structures and approaches is unrealistic, so teachers needed to think differently and plan around available technologies and what students had access to. Despite the best preparation under difficult circumstances, the school recognised that problems would emerge and would need to be solved quickly and collaboratively: **“Teachers were prepared to be flexible and problem-solve, not just say this is the problem but make a suggestion as to how we might go about fixing it”** (Christine, Interview). The teachers understood that they could not merely replicate and would have to adapt what they had planned to suit an online environment. This agile mindset, and having realistic expectations, was a key lesson learned: **“I think the number one thing that we realised was that we needed to accept that there would be things that we couldn’t do and to work around that, so to plan, knowing those limitations”** (Michele, Interview).

Al Noori Muslim School

Digital practices to support learning

July 2021



Acknowledgement

This case study was commissioned by the Association of Independent Schools of NSW as part of a broader study to investigate teachers' effective and inclusive digital pedagogies, as well as emerging digital practices during and after the period of remote learning.

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 well-being, and forecasting, with numerous projects involving mix-methods including those in health and well-being, education, employee, stakeholder and community preferences, and issues around rural and remote workforce participation.

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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.



- Selective, co-educational Muslim school
- Kindergarten to Year 12
- Enrolment: approx. 1900 students
- 98% from a language background other than English.

Source: www.myschool.edu.au.

About Al Noori Muslim School

Al Noori Muslim School was the second case study in this project, with data collected during Term 1, 2021.

Data were collected through a focus group with two key members of the leadership team, five focus groups (three with teachers, and two with students), and a student survey of 638 students. Artefacts including sample student work and school policies were also collected.



Al Noori Case Study Data Collection

School leader focus group:

- 30 minute focus group with two school leaders, the Head of School Operations and Performance, Joumana Dennaoui, and the Welfare Coordinator, Badiah Jalloul.

Teacher and student focus groups:

- 30 minute focus group with two secondary Human Society and Its Environment (HSIE) teachers;
- 30 minute focus group with a secondary science teacher and a secondary maths teacher;
- 30 minute focus group with a secondary English teacher and a secondary maths teacher;
- two 30 minute focus groups, each with ten secondary students from Year 8 to Year 11.

Note: Two teachers were also subject coordinators (Maths and English)

Student survey:

- 638 students from Years 5-12

Research Findings & Insights

The main aims of the school during the remote teaching period were to provide stability and consistency for teachers, students and their families. Visible leadership provided reassurance and staff were encouraged to continue a focus on academic outcomes. Community wellbeing, staff collaboration and enhanced collegiality were emphasised. The school provided resources and extensive technology support for teachers and families, and leaders developed guidelines supporting a uniform approach to online teaching and learning across the school.

Digital learning practices were designed to avoid disruption to students and teachers. These approaches aimed to replicate campus-based practices, typically promoting whole-class, synchronous online interaction and engagement. Staff displayed extraordinary commitment to provide individual remedial support to students before, during and after school. Post-lockdown, the remote teaching period positively influenced fresh ways of supporting staff collaboration, and new blended and peer learning approaches.

School priorities for the remote teaching period

Leveraging digital practices.

At the end of 2019, the school embarked on the Designing for Deep Learning program with AISNSW. As a result, the school had begun to leverage digital practices to support learning and had launched Microsoft Teams within the school. Therefore, in early 2020, when a move to remote learning was required, the school was in the early stages of using updated digital learning practices.

Providing visible leadership.

A priority for the school was to provide visible leadership and stability in a time of uncertainty due to COVID-19. It was important to reassure the school community so that everyone felt safe while maintaining as much consistency of learning as possible. The leadership remained visible to teachers, students and the school community. A calm approach was adopted by school leaders, aligned with part of the school ethos to 'live in the present moment'. School leaders listened to the community and paid attention to their concerns, spending substantial time on the phone reassuring parents. The school quickly developed a working from home policy, which included all the requirements, checklists and tips for the students, and this was emailed to parents.

Providing digital resources and leadership support.

The staff were provided with all the required technology to livestream classes from home. This included laptops and iPads if necessary. This level of resourcing as well as the extensive communication and visible leadership helped ease teachers' anxiety. While teachers were working from home, the school leaders were always at school and social distancing in their offices. The teachers knew that if there was any issue they could go to the school to speak to the leaders. As one school leader said: **"just knowing that they've got someone that they can rely on and then all the [ICT] resources [provided by the school]"** was helpful in reducing teachers' stress levels and therefore supporting teachers' wellbeing.

"Just knowing that they've got someone that they can rely on and then all the [ICT] resources [provided by the school]" was helpful in reducing teachers' stress levels and therefore supporting teachers' wellbeing.

(School Leader)

Key factors affecting remote teaching practices

Collegiality and teamwork enhanced connection and supports.

All participants reported collegiality and teamwork among the teaching staff and leadership team as a major factor supporting their success in the lockdown and beyond. This approach was viewed as contributing to a strong school community and endorsed by the school leadership during the lockdown to create a positive staff mindset. As one teacher indicated: **"... the best message from the school [was], that we're in this together, we help each other. I think that together we did get through it in a positive way."** (HSIE teacher, Focus Group)

"We used the hashtag 'we are all in this together' so I think we're also proud that we didn't do it alone. We connected."

(Leader, Focus Group)

"We used the hashtag 'we are all in this together' so I think we're also proud that we didn't do it alone. We connected." (Leader, Focus Group)

Connected and collaborative approaches were modelled and supported by school leaders and subject coordinators. Teachers regularly archived and shared resources, such as lessons and exams, through Microsoft Teams. This open sharing allowed consistency between classes across cohorts, and also helped reduce staff anxiety. Teachers commented on this approach: **"No-one was isolated as a teacher so at the teacher level we had the idea that we need to work together not only at a faculty level but interfaculty as well."** (English teacher, Focus Group)

"If we help each other and we work as a team it's so much easier, it's consistent but also reduces that anxiety associated with the online learning because I think teachers and students together were quite anxious." (Subject Coordinator, Focus Group)

Preparation for remote teaching enabled a smooth transition.

Before mandatory remote teaching began, the school embarked on a trial with half of the student population working from home at a time. Doing so gave the teachers an authentic opportunity to practice with Microsoft Teams while ensuring all students received the same lessons. This preparation helped when the mandatory remote teaching period occurred. There was no need to run training sessions for the students, although a training video was available on the Microsoft Teams platform. At the beginning of the remote teaching period, a rotating roster was introduced so that some teachers taught from school and some from home.

Effective technology support reduced challenges.

During the remote learning period, teachers used their own laptop or a tablet device supplied by the school. Students used a range of devices, including their own phones. Teachers and school leaders praised the daily support provided by the school during the remote learning period in relation to the technology needs of both teachers and students. This support ranged from addressing the hardware needs of some staff and students, to assisting with home connection issues.

Part of the rationale for support provided was to reduce staff anxiety during the remote learning period, allowing them to focus on teaching. About half the staff were able to be on campus during the lockdown and were regularly visited by the IT Coordinator: **"If you had an issue then he'd come in and help you. So what made the transition easy is that we had a lot of support"** (HSIE teacher, Focus Group).

"If you had an issue then he'd come in and help you. So what made the transition easy is that we had a lot of support"

(HSIE teacher, Focus Group).

“So as a school approach the executives just made decisions, as coordinators we came to an agreement, and then we filtered that down to teachers to make sure that it was the same for all. That meant that the students knew what to expect.”

(Subject Coordinator, Focus Group)

Support by peers enhanced a collegial approach to building technology-based skills.

Peer support with technology was provided through after-school Microsoft Teams training sessions. Some faculties, such as Maths and Science, had already used Microsoft Teams before the remote learning period. Selected teachers were able to act as peer tutors to less confident staff in these sessions. These peer-led sessions enhanced staff collegiality and helped to build: **“a more inclusive, helpful, supportive school environment for us.”** (HSIE teacher, Focus Group) Although technical assistance with Microsoft Teams was the primary goal of these sessions, online pedagogies were also discussed. This developed an **“understanding of how to use Teams as a form of communication with students and to teach”** (HSIE teacher, Focus Group).

Maintaining similar routines to face learning minimised disruption.

To assist with consistency and continuity, the decision was taken to follow the school timetable during the remote teaching period. This required all students to attend classes via Microsoft Teams. A timetable of online synchronous classes was scheduled for students that was closely aligned with their normal, pre-remote learning school timetable. To make it easier for students to remember when lessons were beginning and ending, there was a slight modification to timing so that lessons began on the hour or half hour. The consistent approach to the delivery of ‘live’ lessons by all teachers through the Microsoft Teams platform helped students to effectively engage during the remote learning period.

“So as a school approach the executives just made decisions, as coordinators we came to an agreement, and then we filtered that down to teachers to make sure that it was the same for all. That meant that the students knew what to expect.” (Subject Coordinator, Focus Group)

A common approach to the choice of educational technologies was promoted by the school to minimise the need for teachers and students to learn and implement new technologies and practices. The secondary school chose to use Microsoft Teams, One Note and Microsoft Forms as their platforms of choice for online teaching. The primary school adopted slightly different technologies, using Class Dojo and Microsoft Teams for communication and sharing between teachers. Adopting a uniform approach worked well, and according to discipline leaders, ultimately benefited students.

“I think also it was good, we were doing the same thing. We made the decision we were all on Teams, we were all doing Teams meetings and then it was easy for the students. It’s not like the student had to worry about what this teacher expected and what that teacher expected, it was consistent.” (Subject Coordinator, Focus Group)

Effective digital practices during the remote teaching period

Developing understanding of online etiquette.

Teachers addressed foundational online learning expectations and etiquette before the remote learning period. For example, the English department were conscious that online learning was a new context for many students and there was a need for students to be educated in online etiquette and how to participate in online learning spaces: **“I just instructed the teachers to begin the process of setting up the Teams ... and also just posting expectations and etiquettes that we expect online.”** (English coordinator, Focus Group)

"As time went on, we asked 'how are we going to make sure they're actually doing the work?' So we utilised Teams as an assessment area where you can actually use the workbook... This really gave accountability ... we could give them feedback as well."

(HSIE teacher, Focus Group)

Implementing strategies to monitor learning and provide feedback.

"As time went on, we asked 'how are we going to make sure they're actually doing the work?' So we utilised Teams as an assessment area where you can actually use the workbook... This really gave accountability ... we could give them feedback as well." (HSIE teacher, Focus Group)

One of the issues that concerned teachers was not knowing whether the students were actually engaging effectively during lessons. They were particularly worried about students who might fall behind and need remedial work after the remote learning period. Teachers developed a range of strategies to overcome this challenge:

- Class Notebook to assign tasks to students. This provided accountability for the students, and allowed teachers to track learning and provide timely feedback.
- General feedback for the class was also given in the Chat area of Microsoft Teams. "That was one of the best strategies to make sure that number one, they were paying attention in class and number two, they knew the work." (HSIE teacher, Focus Group).

Modelling whole-class interactive learning from face-to-face approaches.

Teachers aimed to engage students in online learning through Microsoft Teams in a way that was modelled off face-to-face teaching approaches. This included leading whole class discussions, exercises and exposition work. Teachers reported on their use of questioning to develop concepts and encourage interaction during Microsoft Teams lessons. These questions initiated a traditional I-R-E type of interaction (Mehan, 1979), that is teachers would initiate (I) the question, students would respond (R) and then teachers would evaluate the response (E).

A number of specific strategies were adopted:



Mirroring - "I would be writing as I'm speaking and the students. ... like they would do in the classroom - they were also writing into their exercise books. My mic would be on, as would theirs, so it almost felt like they were in class, so it was a very engaging lesson. They were talking to me, and we would answer questions together." (Maths Teacher, Focus Group)



Multiple devices - "I would reach their questions using my second device and answer them verbally for them from the chat. So by having my laptop, my phone and my iPad ... my laptop would be open with the chat in front of me and my iPad is what I'm writing on as I'm talking to them. So I can see the chat, and I'm writing at the same time. I'd verbalise what I was saying and answer their questions... It was really productive and effective. The students said that it's like we're in class, there's no difference at all. If they asked a question I'd stop, so it almost felt like I was writing on the board, and I was there with them, and they really engaged with that." (Maths teacher, Focus Group)



Annotations - "So I would actually show them my screen during the Teams class, I would share the PowerPoint slide. Now usually in class I would annotate everywhere on it through discussion, through input from students, prompting them through questions. We would annotate all over it, so they'd develop a more in-depth understanding. The only way I could annotate online was by using the comments feature where I could just annotate what I'd usually annotate on the board." (HSIE Teacher, Focus Group)



Online chat function - "So we would be mirroring the PowerPoint and usually you'd annotate it like you do in class. ... I make them [students] type the notes and that's what they did, and they typed it in the chat." (English Teacher, Focus Group). Students would also use the chat feature in Microsoft Teams to take notes or print out the annotated document for their records and further notetaking.

"So all of my lessons during COVID were recorded. So if a student struggled with any particular topic, they were able to go back and re-watch those videos."

(HSIE teacher, Focus Group).

Providing individual remedial assistance and feedback.

Teachers were concerned about students being 'left behind' and invested extra time offering individual remedial support. Teachers used a variety of different strategies to provide support.

Recorded lessons and archives were perceived as useful for this purpose, and were also beneficial to students who had limited access to Wi-Fi or to devices at home. **"So all of my lessons during COVID were recorded. So if a student struggled with any particular topic, they were able to go back and re-watch those videos."** (HSIE teacher, Focus Group).

Some referred to specific sections of these recordings in their teacher-led remedial work with students, while others, including one of the Maths teachers, used Microsoft Teams to individually assist students: **"Every student has their own page and so I was able to communicate with students privately."** (Maths Teacher, Focus Group)

Teachers provided generalised feedback in Microsoft Teams after analysing responses to diagnostic surveys in Maths and HSIE: **"A survey that I assigned on Teams had questions about where students struggled the most. ... I later used the information provided by students to make sure that they were actually up-to-date ..."** (HSIE teacher, Focus Group) Students also used the Microsoft Teams platform for further clarification and support of their learning: **"constantly posting [on MS Teams] just to make sure that they understand the content as well."** (Maths teacher, Focus Group)

The school instituted before and after school voluntary sessions for students to discuss their progress and ensure that they received the same level of feedback as they normally would at school. The teachers saw the benefit of this individualised support, with one of the HSIE teachers indicating that "during the one-on-one session, you would go through the student's essay, and you would say this part's great, this is what you have done well, and here's how you can improve on it. It was all about that one-on-one communication".

Enabling student-led activities.

HSIE teachers reported on a student-led, authentic learning approach, involving students finding and sharing newspaper articles on a contemporary issue to upload and act as stimulus for class discussion and debates. One HSIE teacher said he found this strategy helpful for the case study essay component of the syllabus: **"I feel that when it comes time to write these case study essays in the HSC, it's actually come from what they've learnt outside rather than what I tell them. So Microsoft Teams has enabled me or allowed me to do that with them."** This approach transitioned into a blended learning approach following the remote learning period, as discussed later in this report.

One of the Maths students utilised the online medium to give students an opportunity to create a collaboratively designed test to practise for their upcoming formal assessment: **"They made a mock quiz themselves collaborating on one Word document with myself. I then edited it and then I was able to give it to them, something I would never have been able to do in a classroom, but I can definitely do that online."** (Maths teacher, Focus Group)

Effective digital practices across the faculties

Different faculties adopted different strategies in recognition of the unique needs of their curriculum area, and teacher skill. Some of these have continued in the post-remote learning environment.

Maths

■ Tracking assignments through OneNote

“Students download the assignment and then turn it in and what that gave me as a teacher, the ability was to assess and see the student work and who was doing it and who wasn’t doing it. If they were not doing it then I could follow up and that was a method of tracking the student work and if they were online or maybe they may have had problems with the technology, so that was a signal that we needed to help them out”. (Maths Teacher, Focus Group)

■ Generating a weekly online quiz

“Probably the challenging part was with homework, to ensure homework was being completed so what we did as a faculty for mathematics, was I told my teachers is to make a weekly quiz. I assigned a team leader for each grade, and I said to them pick five questions from each exercise which gives a 25-question quiz. Essentially if the student can answer the quiz that means they’ve been doing their homework and that was also embedded into forms. It was marked for you, and you could very effectively give feedback. I could give feedback for every individual question as well as an overall comment. I could set deadlines for when they would do it by and I could give them their mark. So this was a way for homework-checking because it was a little bit difficult to check that they were doing their homework every day. Anyone who didn’t perform in the quiz, that’s when we would give the call home, see what’s going on, is everything okay? Or speak to Welfare and that was a fast way to track their progress”.

Science

■ Moving to a flipped learning approach

“I used the Teams ability to record ... you can record the screen. Along with the voiceover and me explaining, I’m actually visually showing them the concept which is a practical concept. Also the fact that this was a recording, and they had a link, they could always go back and revise. That stream now for me is like a library, I have coded lessons and I have a whole bundle. What I’ve done with them at the moment in my Teams is I have my class and I have basically modules and under each module I have lessons. So it’s allowed me to develop these quite nice interactive videos that are always there. The students are telling me that they like them and I’m using them in a semi flipped learning mode now at the moment”. (Science Teacher, Focus Group)

HSIE

■ Revisiting learning through the use of recordings

“The students were really panicking and they’re like ‘why us’ kind of message. I said don’t worry, in fact this is a benefit for you because I’m going to record all my lessons whereas in class you’re not able to. So all of my lessons during COVID were recorded so if a student struggled with any particular topic they were able to go back and re-watch those videos. It actually benefited me as well because when students came to me and said ‘Sir, how do I do this?’, I would put up the video and say, ‘Do you remember when I said this?’ I can show them when I said, ‘This is what I mean by that.’ (HSIE Teacher, Focus Group)

Practices to support student inclusion

Strategies were implemented to overcome Internet access and device sharing challenges.

Although most students had access to the Internet at home, the school offered to assist students by providing data cards for those who had access challenges. Many families had to share devices between siblings as described by one teacher. **“I had a student who had three other siblings and they only had one desktop computer at home and he’s like ‘Yeah but my brother’s lessons are running the same time as my lessons. I can’t miss out on my work’ .”** HSIE teacher (Focus Group) Regular recording of lessons assisted in these situations, and the teacher was able to tell the student: **“I will run the lesson [at the regular time] but I will record it, that way after your brother finishes from the desktop you can go on, you can press the recording, you have access to all the worksheets and do your work that way”.**

Providing non-digital options and enabling use of multiple devices.

Some students, because of time, disability or difficulty, printed lesson notes which allowed them to complete learning at home in a way that worked best for them. Teachers also supported students to use multiple devices to access learning.

“Because of the way I had set up the resource they didn’t really need much Internet and it also was synched to their phone if they downloaded the app. We taught them how to have Teams on their phones and on their devices so a lot of the students said that they could still access things on their phone. So if they went somewhere with Wi-Fi or even if they were at home and someone else was using the computer they could still access everything because of the apps and the way they are all embedded and integrated together. So that worked quite well.” (Maths teacher, Focus Group)

Approaches to support wellbeing

> STAFF WELLBEING

Staff wellbeing was a primary concern for school leaders, who helped resource staff with training and devices for online teaching. They also minimised the need for adopting new digital approaches that might indirectly increase time needed for preparation of lessons. The following strategies were viewed as important, as despite this, there was agreement amongst teachers that time needed to plan and implement learning initially increased. They attributed this to the extra preparation of materials, and changing teaching and learning strategies to accommodate for online teaching.

A deliberate focus on synchronous teaching reduced teacher workload.

To assist with staff wellbeing, the school leadership decided that all lessons would be run live to help teachers to manage workloads. So, there were no pre-recorded videos, just voice and the screen that the teacher wrote on. As one of the leaders explained: **“Sometimes you can be more relaxed if there’s no preparation, it comes natural to the teacher. So we said, just run your lesson. We allocated a classroom for every teacher with all the facilities that they needed, and they were in a classroom obviously with no students. ... They would run the session, they’d mark the roll, they would write on the board, obviously displayed on the screen for the students. So that in terms of staff wellbeing, we took that measure just to help staff lower their expectations of themselves of having everything perfect”.**

"We advised that teachers also have families at home, don't expect an answer now within 48 hours. So we actually had to develop guidelines for the teachers and for the families to say, 'switch off, you don't have to be learning all the time'."

(School Leader, Focus Group).

"We were on the phone ... for hours just reassuring parents, saying it's okay, you don't have to be perfect."

(School Leader, Focus Group).

Creating clear boundaries and expectations, helped to support work-life balance.

There was a clear endorsement of staff managing a healthy work-life balance and not being 'available 24/7' online. Because they were constantly accessible to students and parents online, some teachers were finding it difficult to switch off. Their after-school use of mobile phones exacerbated the problem. As mentioned previously, many teachers also monitored and responded to students' online requests for assistance before and after school. For that reason, teachers were told that the school day finished at 4.30 and they had to log off. One school leader reported that she explained to a teacher: **"That's how it's got to be because you've got to get some exercise, you've got to get some sleep, spend time with family because even families were living isolated lives because we couldn't visit each other's houses"**.

Development of guidelines assisted in managing parental expectations.

School leaders developed guidelines, advising parents of realistic expectations for teacher email replies and student learning time at home. **"We advised that teachers also have families at home, don't expect an answer now within 48 hours. So we actually had to develop guidelines for the teachers and for the families to say, 'switch off, you don't have to be learning all the time'."** (School Leader, Focus Group).

> STUDENT WELLBEING

Communicating with the school community was vital.

The school considered communication key to student wellbeing. School newsletters were published more frequently and included details of services and support available to families, advice from school counselling staff, and online learning tips.

"So I think the main thing with welfare was to let everybody know that we are here to support them if they need it, to reach out. We were doing our constant checks, and being present in their online learning because once they were not visible to us and we're not visible to them, some kids would think oh we can relax now. So we were constantly emailing them, calling them so they thought okay, no, we need to get on board." (School Leader, Focus Group)

A goal of the school communications was to support parents at home who were trying to help facilitate their children's learning, sometimes under challenging circumstances. Parents were given strategies and support.

"We were on the phone ... for hours just reassuring parents, saying it's okay, you don't have to be perfect." (School Leader, Focus Group).

"We were communicating with the parents, giving them a courtesy call on how things are going, did they need help? Do they need any support because obviously you have issues sometimes with access to resource in different families, different situations, offering that assistance" (School Leader, Focus Group)

The school conducted an online survey asking for feedback from parents and students towards the end of the remote learning period. The survey sought feedback on what the teachers did well during that period and whether there were elements they would like teachers to keep doing. The school wanted to ascertain how the students felt about coming back to school for face-to-face learning, and whether they were nervous about coming back to school.

Welfare staff provided essential supports to both students and staff.

The school has two welfare co-ordinators, one for male students and one for female students. Teachers were advised to contact them if there were any trends when marking attendance or if any issues arose during lessons. The welfare co-ordinators were on the phones during the day just checking in with students, not only about behaviour but also providing welfare checks if student attendance warranted them.

"I think in the future, if we're headed there, a more flexible timetable for students to incorporate more physical activity during the day is very important".

(HSIE teacher, Focus Group)

Logging off for exercise was important to help facilitate physical activity.

The school was mindful of the importance of physical activity for students. The PDHPE faculty devised routines and exercises for the students to be completed during Tuesday sport and their PDHPE lessons. This proved positive for student well-being, although it was up to the students and parents to ensure that they engaged in physical activity since teachers could not monitor that. **"I think in the future, if we're headed there, a more flexible timetable for students to incorporate more physical activity during the day is very important".** (HSIE teacher, Focus Group)

Social interaction was encouraged to support general wellbeing.

A strategy to combat isolation and anxiety was through 'checking in' with students at the start of lessons. Some teachers found it beneficial to begin with a five-to-ten-minute session talking to the students about their day and asking how things were going for them. They thought this was critical as it was easy to forget that students were isolated at home in front of a screen without their friends. They found that the students would look forward to that and said they enjoyed that time.

"... I've got my laptop open, I'm marking the roll. As they sign in, I want to hear at least their voice or at least say hello. I made a thing that okay, you don't want to turn your mic on and say hello? Give me a chat and say that you're here. I think that really just gave a nice introduction to the lesson because I think we were so focused on getting the work done and anxious ourselves that we forgot that they're stuck at home sitting in front of a device all day long, not seeing their friends and not seeing each other. I think that worked reasonably well in my perspective". (Maths Teacher, Focus Group)

Practices continuing beyond school lockdown period

Enhanced opportunities for collaboration and sharing.

Collaboration has been further enhanced through online use of Microsoft Teams, providing more streamlined resource sharing amongst staff. Homework is now mostly online, and the culture of 'handouts' has diminished. Microsoft Teams is now also being used as a vehicle for sharing more targeted resources with students requiring additional supports.

Ongoing use of blended learning approaches.

Teachers reported on an increase in blended learning approaches following the remote learning period. One of the Maths teachers indicated that a 'flipped classroom' approach has been adopted in his area. He implements pre-class online activities, including use of diagnostic quizzes and forms, to identify concepts that may need closer attention in class.

"It makes my teaching easier because when I come to class the next day, I've already addressed the homework problems, we've already addressed any misconceptions. It also means that if I've noticed a bit of chatter online I know that that concept might need to be readdressed in class and so that's what's really nice." (Maths teacher, focus group)

An HSIE teacher adopted a similar blend of face-to-face and online strategies in her class debates. Students used to bring media articles to class that described controversial issues. These articles would provoke passionate class discussion and debate of contemporary topics linked to the syllabus but often would take up too much class time. In the wake of the remote teaching period, these debates now occur online in the Microsoft Teams chat mode before and after classes.

"If they go on a rant I just leave them, let them discuss whatever they want. If they start mentioning things that are irrelevant then I'll step in and say okay, let's debate the topic only."

(HSIE Teacher, Focus Group)

"Some parents were asking on the parent teacher interview how do I confirm whether he has homework or not? Now they can go to Teams and see if there is any homework".

(Maths teacher, Focus Group)

She believes that **"...this [blended approach] I guess has made it a bit more of an efficient form of communication."** (HSIE Teacher, Focus Group)
This teacher described her role as promoting the delicate balance between student-led discussion and moderation: **"If they go on a rant I just leave them, let them discuss whatever they want. If they start mentioning things that are irrelevant then I'll step in and say okay, let's debate the topic only."**

Continuation of online peer learning strategies.

Maths teachers reported a shift in their adoption of online peer learning strategies using Microsoft Teams. This has been used to support students with additional learning needs, and has been particularly beneficial from a homework perspective.

"It's been great in mathematics in that students can get access to the teacher if they have a homework problem, or we actually encourage online collaboration. If a student's doing their homework, they have a question, they post the question up and they assist each other and we as teachers jump in when necessary." (Maths teacher, Focus Group)

Another Maths teacher (Focus Group) described a similar strategy he is using by setting up a Microsoft Teams group facility with his Year 12 class: **"I have a homework help channel, and this is where the students will ask a question and they'll reply to one another and help each other through anything that they're working through or any questions they have."**

Shifting homework online.

Homework is now undertaken primarily online throughout the school, resulting in a significant saving in paper. **"Now all of our classes have MS Teams as a homework centre for homework and for assignments and they're using forms, MS Forms for online quizzes. And it's a lot easier now because it takes away from the time that teachers have to spend marking because you have auto-feedback through some of the options that you have"**. (School Leader, Focus Group)

The use of Microsoft Teams has been helpful for parents to keep track of what is happening with students' homework. **"Some parents were asking on the parent teacher interview how do I confirm whether he has homework or not? Now they can go to Teams and see if there is any homework"**. (Maths teacher, Focus Group)

Ongoing use of Microsoft Teams for learning.

The school has adopted an ongoing use of Microsoft Teams. Across the remote learning period, programs for Kindergarten to Year 12 were developed in the online space, making them, and all the resources, accessible to everyone. With an ongoing back up to the cloud, it is always accessible. Staff find the Microsoft Teams system more streamlined, resulting in a reduction of anxiety in relation to missing out on information.

Participants' recommendations and lessons learned

"Have a good sense of humour about everything, that's what got us through, but I think really invest in professional development ...and we really focused on technology for professional learning...we saw that gap, so I guess for the future maybe do some sort of situational analysis and see where your gaps are and then start filling them in".

(School Leader, Focus Group)

"The best advice is that it's not going to be perfect and that there's going to be hiccups and mistakes but that's okay... Things happen but that's okay, it's all good, everyone's in the same boat. You just have to do your best."

(English teacher, Focus Group)

Adopt a context specific approach.

Leaders suggested that every school has different needs, and a situational analysis is needed to strategically address gaps in resourcing and professional development. Teachers also emphasised preparation, professional development and keeping a sense of humour as a central lesson taken from their remote learning experiences.

"Have a good sense of humour about everything, that's what got us through, but I think really invest in professional development because [as luck would have it] we had started on a journey designing for deep learning. ... We said to ourselves okay, we need to invest ... in technology ... and we really focused on technology for professional learning. We did that because we knew, we saw that gap, so I guess for the future maybe do some sort of situational analysis and see where your gaps are and then start filling them in". (School Leader, Focus Group)

Support collegial, flexible and agile approaches.

Teachers emphasised collegiality as central to their success during remote learning. One teacher recognised the benefit of teamwork: **"...sharing and working together made it a lot easier from my perspective, so that's probably the best advice I would give."** (Maths teacher, Focus Group) A Science teacher emphasised sharing of resources: **"Share resources so that**

each teacher effectively only has to worry about doing one thing instead of worrying about the three or four different classes they teach. If we help each other and we work as a team it's so much easier."

The importance of being both agile and flexible were also considered important, and the recognition that: **"Things could go wrong, or things might not go according to plan so be aware that you need to have a different plan or strategy or an approach to things."** (Maths teacher, Focus Group)

"The best advice is that it's not going to be perfect and that there's going to be hiccups and mistakes but that's okay... Things happen but that's okay, it's all good, everyone's in the same boat. You just have to do your best." (English teacher, Focus Group)

The Nature School

Digital practices to support learning

July 2021



Acknowledgement

This case study was commissioned by the Association of Independent Schools of NSW as part of a broader study to investigate teachers' effective and inclusive digital pedagogies, as well as emerging digital practices during and after the period of remote learning.

Research Team

Associate Professor Mathew Kearney is a researcher in the area of technology-enhanced learning. His main research focus is on innovative technology-supported learning in K-12 and teacher education contexts. He is leader of the initial teacher education discipline in the Faculty of Arts and Social Sciences at UTS, and a senior researcher in the Faculty's Centre for Research on Education in a Digital Society. He has published 11 book chapters and 35 journal papers, and is lead author with two colleagues of a new Springer book titled *Theorising and Implementing Mobile Learning*. Kearney was part of a 3-member team that won first prize at the 2019 European e-Learning Excellence Award.

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.

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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)

“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)

“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 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.

"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).

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

“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)

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)

"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)

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)

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 discursing 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)

"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"

(Principal, 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.

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)

"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)

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)

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)

"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)

St Philip's Chrisitan College DALE and DALE Young Parents

Digital practices to support learning

September 2021



Acknowledgement

This case study was commissioned by the Association of Independent Schools of NSW as part of a broader study to investigate teachers' effective and inclusive digital pedagogies, as well as emerging digital practices during and after the period of remote learning.

Research Team

Associate Professor Mathew Kearney is a researcher in the area of technology-enhanced learning. His main research focus is on innovative technology-supported learning in K-12 and teacher education contexts. He is leader of the initial teacher education discipline in the Faculty of Arts and Social Sciences at UTS, and a senior researcher in the Faculty's Centre for Research on Education in a Digital Society. He has published 11 book chapters and 35 journal papers, and is lead author with two colleagues of a new Springer book titled *Theorising and Implementing Mobile Learning*. Kearney was part of a 3-member team that won first prize at the 2019 European e-Learning Excellence Award.

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.

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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.



St Philip's Christian College DALE and DALE Young Parents

St Philip's Christian College (SPCC) spans six schools and caters for students from Pre-Kindergarten to Tertiary Learning. This case study concerns two of those schools. **SPCC DALE** is a Dynamic Alternative Learning Environment for students with disabilities in Years 3 – 12. This *special needs school* is located in Newcastle and caters for students who have a diagnosis of anxiety, depression, PTSD, or autism. **SPCC DALE Young Parents** is an accredited special assistance school for young parents. It has two campuses located in Newcastle and the Central Coast, NSW, providing flexible learning environments for stages 4 to 6 to any young parents. There is onsite early learning and care for their babies whilst they study.

This was the fourth case study in this project, with data collected during Term 2, 2021. Data were collected through virtual interviews and focus groups. Artefacts, including student work samples and school policies, were also collected.



St Philip's Christian College (SPCC) Case Study Data Collection

School leader focus group:

- 30 minute focus group with Brant Maslen, SPCC DALE special needs school, and Wendy Gerakios, SPCC DALE Young Parents school

Teacher interviews:

- 30 minute interviews with four teachers - 2 teachers from each school

Student focus groups:

- Two 30 minute student focus groups - 1 group from each school (5 students per group)

Research Findings & Insights

Key research insights

As special needs and special assistance schools, student connection and wellbeing were core priorities underpinning the schools' decisions during the remote teaching period. Another priority was adopting personally tailored approaches to learning, adapted to students' unique circumstances. Although these priorities underpin the schools' everyday practices in normal times, the challenge was to adapt digital practices that worked for the remote teaching period.

A range of digital approaches are outlined in the report, though many practices are context-specific to each school. There was a balance of guided and self-paced activities, and staff noticed an improvement in students' independent learning skills. Given the complex student needs in both schools, and the frequent necessity for some students to work at home, there are plans to build on the experiences of remote teaching to support more autonomous off-campus learning, as the need arises.

A range of strategies were used to support student wellbeing, and many of these have become ongoing practices. There were frequent student and family wellbeing check-ins, providing individualised and targeted support. Teachers were aware of the importance of students maintaining their social networks and used different strategies to encourage peer interactions. Teachers designed and implemented enjoyable, collaborative interactive games to support learning and maintain student connection, and reduced their normal student workload expectations. Students at SPCC DALE Young Parents had limited digital access, so staff were creative and adopted multi-faceted approaches during the remote teaching period to maintain engagement and wellbeing.

School contexts

Prior to the pandemic, both of the St Philip's Christian College (SPCC) schools had been planning to implement a learning management system (LMS), badged as iLearn (using Schoolbox software). Adoption and implementation of this new system was expedited, with staff being upskilled in its use two weeks prior to lockdown. The teachers spent that time learning the system, transferring their programs to the online environment, and learning to use Zoom to be able to facilitate learning at school and at home. The school IT support team helped develop short training videos to help staff upskill in the new LMS, and these were emailed to families for assistance.

Students' digital access differed markedly between the two schools. SPCC DALE students had already been assigned their own laptops before the pandemic. Previously laptops were only used at school but were able to be taken home for the remote teaching period. Some SPCC DALE students still came to the school campus during the remote teaching period. This was primarily children of essential workers, or of parents who were not able to care for their children at home. To cater for this, some teachers worked from campus, while others taught from home. A typical daily routine involved three Zoom sessions, usually starting with a literacy session followed by a numeracy session. Timeout was given for recess and lunch, and for transitions. As an example, in the Year 8 morning session, students and teachers would be in Zoom sessions for two hours, and then teachers would be available by zoom or email if students needed to ask follow-up questions.

Students at SPCC DALE Young Parents are not assigned computers. During the period of remote teaching a difficulty for these students was limited access to the internet and digital devices at home. The school used a range of approaches to support and communicate with the students: use of emails, phone calls, zoom session and systematic 'drop-offs' of packs containing hard copies of paperwork and resources to their homes. These students were on individual timetables based on their subject choices and their modes of study. They usually bring their babies to school, with relatively high absenteeism quite common due to childhood sickness. Subsequently, adjustments are made to each student's program. The school has a policy of no homework so that students can focus on their parenting when they are at home. Making home a learning space during the remote teaching period was new and challenging for many of the SPCC DALE Young Parents students.

School priorities for the remote teaching period

Maintaining student wellbeing.

"Our core values, and what underpins what we do as specialist assistance schools, didn't change. If we tried 'to be something that we weren't' in that remote environment, it wouldn't have worked" (Wendy, School Leader Focus Group).

As special needs and special assistance schools, the main priority for the remote teaching period was connection and wellbeing. Caring for the students, their families, and combatting isolation was the focus in both the DALE and DALE Young Parents contexts. One of the school leaders stated that the main goal was **"maintaining connection with the school, and ensuring ongoing wellbeing for the students and the parents"** (Brant, School Leader Focus Group). This priority on student wellbeing was already a core value of both schools, and underpinned the schools' decisions and strategies during the remote teaching period.

One of the teachers summed up her school's approach to the remote teaching period: **"Our focus here is just wellbeing, wellbeing, wellbeing, and I think that's what we always have to default to, keeping ourselves and each other safe"** (DALE Young Parents English and Art teacher, Interview).

Providing flexibility and individualised approaches.

Another priority for both schools was flexibility, and personally tailored approaches to learning that are adapted to students' needs. This priority underpins everyday practices at the schools in normal times: **"I guess it's quite organic here, because of the nature of who we're working with"** (DALE Young Parents English and Art teacher, Interview). This approach continued during the remote teaching period: **"Fundamentally, the fact that we are individualised, we are flexible, we adjust to the students that we have - this didn't change"** (Wendy, School Leader Focus Group). A Year 8 DALE teacher stressed the importance of tailoring her approach to meet the needs of individual students: **"I teach to their strengths. So, identifying what it is that they want to achieve, and then trying to work out a way that I can support them to do that"** (Year 8 DALE Teacher, Interview). Teachers at DALE Young Parents also created individual learning plans and solutions based on their students' level of digital access: **"We would see a student had a problem, and then ask, 'how are we going to adjust to make the curriculum accessible to them'?"** (DALE Young Parents Visual Arts Teacher, Interview).

"Our core values, and what underpins what we do as specialist assistance schools, didn't change. If we tried 'to be something that we weren't' in that remote environment, it wouldn't have worked."

(Wendy, School Leader Focus Group)

"We would see a student had a problem, and then ask, 'how are we going to adjust to make the curriculum accessible to them'?"

(DALE Young Parents Visual Arts Teacher, Interview)

Ensuring core values informed whole-school decisions.

Whole-school decisions during the remote teaching period were informed by the school's core values. An early decision was made by school leaders to modify the school day. Mindful of being special needs or special assistance environments, the staff realised that if they tried to duplicate a 'normal' school day through remote learning, with the same expectations at home as at school, they were only going to cause stress for students, families, and staff. Teachers quickly modified what the school day looked like, with schools becoming primarily a 'check-in point', before providing learning sessions. Teachers at both schools adjusted their programs to suit remote learning. They switched around the scoping and sequencing of their programs, so that they were teaching material that was relevant and able to be completed at home. The teachers at DALE Young Parents were flexible, working around their students' needs and not having an expectation of attendance from 9am until 3pm, as was required during face to face on-campus learning.

Key factors affecting remote teaching practices

Staff collegiality enhanced staff wellbeing and provided support.

A key factor in the school's success with remote teaching was the staff collegiality. Staff met daily over zoom to share experiences, reduce any anxiety, and solve unexpected challenges. A teacher at DALE Young Parents explained her thoughts on the key to her school's success: **"It has everything to do with the communication, the problem-solving. I think good team collaboration was the key for us. It happened daily, so it wasn't just a once a week check-in, it was 'alright, what are we doing today'?"** (DALE Young Parents Visual Arts Teacher, Interview). A teacher at DALE shared similar sentiments: **"I think we maintained connection between all the staff and supported each other. ... we have a very united team here and I think we all supported each other"** (Year 8 DALE Teacher, Interview). Pre-existing bonds between staff were also seen as important: **"I think that the strong relationships that we'd already built before this all happened just carried through. We were still there, and we were still making contact, we were still doing all of those things. I'm super-proud."** (Wendy, School Leader Focus Group)



Staff collaborative problem-solving enabled positive solutions to challenges.

Staff collegiality led to effective sharing of ideas and collective problem-solving. Teachers shared ideas and resources for their sessions during daily debriefs, as well as possible approaches for engaging students and parents online. School leaders were proud of this aspect of their success: **"We realised what it was about, and how we worked on solutions was the thing we should be most proud of"** (Brant, School Leader Focus Group). Peer learning amongst staff was subsequently enhanced: **"There was collective learnings and 'collective sharings' as a professional learning group"** (Brant, School Leader, Focus Group). One teacher emphasised this collective staff approach to problem-solving. **"So many of those challenges came up, but we just would try and find solutions around them"** (DALE Young Parents Visual Arts Teacher, Interview).

Innovative hybrid teaching approaches supported simultaneous on campus and remote teaching

For various reasons, some students at DALE special needs school needed to be on campus during the remote teaching period. The teachers worked under a rotating roster system; some worked at home, some worked at school, and then they swapped. The staff at DALE special needs school team-taught the students who were at school, as well as teaching via Zoom: **“So essentially we were offering dual learning, but 90% of the kids were at home”** (Stage 6 DALE Teacher, Interview). The school had to quickly acquire cameras and microphones for this hybrid ‘dual delivery’ approach. Doing so allowed staff to walk around the classroom and have the camera follow them. The teaching became more interactive than just using a computer with a camera pointed to a whiteboard, which the staff felt would lead to disengagement by remote students. Their hybrid approach also provided peer interactions between students on campus and at home: **“So even though they were at school, they were still looking at the screen and catching up with their friends and vice versa. So we really needed it to work both ways”** (Brant, School Leader Focus Group).

Effective digital practices during the remote teaching period

SPCC DALE SPECIAL NEEDS SCHOOL

Providing continuity of learning through effective use of the Learning Management System.

Students at SPCC DALE could access all their learning and assessment tasks through their iLearn class page and upload their work there as well. The literacy and numeracy support staff set up breakout rooms to work with the students that they normally worked with. As one teacher observed: **“it was actually continuity of education, there was no break in their education”** (Year 8 DALE Teacher, Interview). Many students were quite ‘tech-savvy’ and as one teacher put it, **“it just became second nature for them”** (Stage 6 DALE Teacher, Interview).

Assisting students through explicit teaching practices and scaffolded instructions.

Teachers ensured that instructions for students on their LMS pages were well-structured and student-friendly. This included the use of a daily blog within iLearn: **“We would explicitly outline what was on in the day, and when their subjects were scheduled in their daily blog. They’d have all their weekly tasks submitted to iLearn and they would access their calendar and their due dates”** (Stage 6 DALE Teacher, Interview).

Teachers also embedded instructive YouTube clips into their class iLearn pages. In a similar approach to flipped learning, they would instruct the students to watch these videos, or click on a hyperlinked image, prior to explicit teaching: **“So, almost flipping the classroom is probably what we’d call it if we were in class”** (Stage 6 DALE Teacher, Interview). Visual cues were used as a supplement to verbal and written instructions and explanations on the LMS as an additional support for students with autism: **“We obviously have students that are on the autism spectrum, so we’d use it [iLearn] to put visuals on there to show them what their day looks like”** (Year 8 DALE Teacher, Interview).

Using participatory online class discussions to support learning and connection.

Teachers found that students gained confidence in online class discussions. Being physically located in their more familiar and secure home environment, DALE students felt more comfortable participating in class discussions. Students participated in these virtual discussions with more enthusiasm because they could turn their cameras off, reducing attention to themselves and feeling 'safer' to discuss and share ideas. A teacher recalled a literacy lesson where they had to read a passage. The teacher was reading the passage aloud, but then would share the screen and the students would take turns at reading.

"I feel like we got more discussion in that particular lesson than what I probably would have got if we were in the classroom setting. Whether they just felt a bit safer being behind their screens, and being able to talk, I don't know. In class they wouldn't want to be that focus of attention so wouldn't talk. Over Zoom, they could talk and still not be the focus of attention." (Stage 6 DALE Teacher, Interview)

SPCC DALE YOUNG PARENTS SPECIAL ASSISTANCE SCHOOL

Using technologies to enable practical lessons.

One of the SPCC DALE Young Parents teachers described a practical art lesson via Zoom as really challenging but also enjoyable for students:

"So I had my laptop set up on my kitchen bench and I'm at my dining table and I'm showing them ... now I wanted to really push a colour and they're trying to follow on at home, and their kids are jumping in. It was comical but it was actually quite fun, trying to do a practical art lesson via Zoom. I had 15 students and there were 15 little children in the screen as well. I was proud of that lesson because I think all the students at the end of it were laughing ... That was probably the way I looked at 'success' at that time: if my students were able to engage and laugh in a very bleak time." (DALE Young Parents English and Art Teacher, Interview)

In a subject called Exploring Early Childhood, the students created their own storybook and then read it to their children at home. The students and their teacher would then **"discuss that [experience] either in person or in written form"** (DALE Young Parents Visual Arts Teacher, Interview). The students were given options of how they would create the book. They could either physically create it using packs of colouring in pencils and resources that the teacher sent home, or digitally if they had access to that technology and they were comfortable using it.

BOTH SCHOOLS

Providing a balance of guided and self-paced activities.

Teachers at DALE Young Parents worked on building their students' capacity to learn more independently, as they were accustomed to having one-on-one support. Initially the teachers devised a timetable where the students were to complete certain activities during a session, and the teachers would check in with them at the end of the session. They soon realised that with toddlers or babies at home, that was not going to work. So they set work for the day, and then students would send their work, or photos of any work they had completed, to provide evidence of their learning. Teachers were able to adjust the task for each student's differing circumstances. Staff felt that many students benefited from a more self-controlled environment and felt **"empowered that they could take control of their learning"** (DALE Young Parents English and Art Teacher, Interview).

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(DALE Young Parents English and Art Teacher, Interview)

DALE Teachers were conscious of excessive screen time, so they also emphasised more self-paced, 'off-screen' activities. For Science and PDHPE, the DALE teachers put together kits and sent those home. They also tried to utilise materials that students would have in their homes. Students were encouraged to engage in active, outdoor activities, including during 'morning movement' sessions using videos from YouTube. Students remembered this as a positive: **"We still did our – we call it morning movement – so we still did exercise and everybody would have to get up on the camera, do jumping jacks, stretching"** (DALE student, Focus Group). One teacher guided the students in practical activities via Zoom demonstrations, making sure her hands were high enough that they could be seen. The teacher noted: **"it was a bit of a learning curve for not only students but for staff"** (Year 8 DALE Teacher, Interview).

Strategies to improve digital literacy and confidence.

The students became more digitally literate and confident due to the period of remote teaching. Because the students had to rely on themselves more while learning at home, for instance through the self-paced activities mentioned previously, teachers noticed that they were more willing to work things out for themselves, rather than relying on the teachers to show solutions. One of the school leaders believed: **"Young parents just grew in their computer skills, absolutely"** (Wendy, School Leader Focus Group).

Teachers also became more confident in their digital skills, and their ability to find solutions to technical problems: **"Technology-wise I think we [staff] feel more confident. I'm more than happy to have a bit of a click around and go 'you know what? I think I can work this out!'"** (Year 8 DALE Teacher, Interview).

Practices to support student inclusion

"We didn't call it remote learning, we called it, for DALE, dual delivery, so that those students could be here, and the dual delivery mode could still keep them connected."

(Brant, School Leader Focus Group)

Offering a clearly structured dual delivery mode.

With one or two students on campus at SPCC DALE school, the teachers used the digital technologies to help keep them connected with their peers. So even though they were at school, the students were still looking at the screen, and catching up with their friends and vice versa. A school leader said: **"We didn't call it remote learning, we called it, for DALE, dual delivery, so that those students could be here, and the dual delivery mode could still keep them connected"** (Brant, School Leader Focus Group). Like SPCC DALE, SPCC DALE Young Parents remained open, and while they had one or two students on campus, most students chose to learn remotely.

Adoption of creative strategies to address digital access challenges.

Students at SPCC DALE Young Parents had limited digital access, so staff had to be creative and adopt multi-faceted approaches during the remote teaching period. Because few students had computers at home, teachers were reliant on the students using their phones. They ensured that they spoke to the students by phone each day, as well as contacting them and sharing lessons via email. Teachers also sent home printed work packs and would record Zooms because synchronous learning was often challenging for parents with young children at home. Some students did the work at night, or when their children were asleep.

Adoption of strategies to assist families and carers.

Many DALE students had access to, and were familiar with, digital devices. Despite this, some of the families found the remote learning period very difficult due to their differing levels of digital literacies. The DALE school put together short training videos that were emailed out to families. These videos helped parents to navigate the new Learning Management System (iLearn) with their children. An IT support person was available on the phone for parents to talk them through technical aspects, including access to Zoom meetings.

Approaches to support wellbeing

STUDENT WELLBEING

Wellbeing assistants provided important additional support for students and families.

DALE school usually has a wellbeing assistant in each classroom, as well as a teacher. During the remote teaching period, wellbeing assistants co-facilitated learning in the classroom with the teacher, but also focused on supporting families. Each day, the wellbeing assistants used phone calls, text messages or zooms to check-in with the students, and once a week checked-in with families. Initially, the family check-ins were related to managing the online learning environment, but over time the wellbeing assistants also did a lot of work to build parents' confidence.

Regular wellbeing checks provided individualised and targeted support.

Regular wellbeing check-ins with students were conducted, often up to three times per day. These individual communications with students were designed to check on their wellbeing and gauge how the students were progressing with their work.

DALE Teachers incorporated Zoom links into their class iLearn pages. Students would click on the Zoom link for wellbeing check-ins, which would happen two to three times a day. This took place regardless of the student's age. Because they were working with students with special needs, DALE teachers or the wellbeing assistants would also conduct personalised one-on-one Zooms with their students. One teacher described how they managed difficult student cases: **"We had one student in particular, with whom I spent an hour on Zoom just chatting; just talking through stuff. And then our wellbeing assistant spent extra time as well, because obviously their wellbeing was our priority"** (Stage 6 DALE Teacher, Interview).

When DALE Young Parents teachers dropped off learning packs, there were further wellbeing checks: **"When we were able to do drop-offs we were delivering food as well as lessons, hard copy lessons and sometimes little care packages we were delivering to them, just in hopes of lessening anxiety"** (DALE Young Parents English and Art Teacher, Interview).

Activities were designed for learning and maintaining student social networks.

Teachers were aware of the importance of students maintaining their social networks and used different strategies to encourage peer interactions. As a Year 8 teacher at DALE said in her interview: **"Their social networks were cut off. For teenagers that's really, really important."** Apart from regular check-ins, teachers often designed enjoyable tasks that students could do together. A teacher recalled: **"We tried to make those connections consistent and fun. ... the wellbeing side of it was probably more important, because we wanted to keep them engaged and we wanted to keep them mentally well"** (DALE Young Parents Visual Arts Teacher, Interview).

The DALE Young Parents students valued communication with friends and teachers during the period of remote teaching. As one student explained:

"As a mum you're already isolated, ... your whole life revolves around being a mother. So being able to keep in touch with people, and getting your mental health on track, ... just keeping in contact with your teachers and friends would be the biggest part of my experience." (DALE Young Parents Student Focus Group)

DALE teachers often left class zoom calls 'open' after classes, to allow for social networking, so **"they had that opportunity to connect with their peers"** (Year 8 DALE Teacher, Interview). They saw this as similar to the students being in the playground under normal school circumstances.

Engagement was supported through incorporating games and fun activities.

The teachers incorporated enjoyable, interactive games such as '20 questions', 'Pictionary', and 'Guess the sound' over Zoom. They felt it was important to **"make sure that we had those elements of fun in their day as well, that it was keeping them connected to each other"** (Year 8 DALE Teacher, Interview).

"We would do fun things for their wellbeing. We did a Zoom bake-off, and craft activities - we'd drop off craft, and then we'd all make it together. We had 'show your pet' and 'bring your favourite toy' sessions, and we'd do scavenger hunts." (DALE Young Parents English and Art Teacher, Interview)

Part of the DALE teachers' rationale for implementing enjoyable activities was also to help their students feel comfortable with remote teaching, so they could stay motivated and come back the next day.

"We found that the games really helped for the kids to want to tune in. They knew that we were going to probably wear a silly hat or something in the morning session, so they knew that they wanted to check in, so that then they could all have a good laugh at us. My wellbeing assistant that I work with often showed up in a banana costume like a giant banana" (Year 8 DALE Teacher, Interview). These games also had considerable benefit for the young parents' wellbeing and teachers felt it helped to sustain them through the remote teaching period.

Setting realistic workload expectations

Although the school was using a LMS (iLearn), the majority of the SPCC DALE Young Parent students couldn't access this platform on their phones. When this is coupled with significant anxiety around the school lockdown, their ability to learn new digital skills was reduced. The teachers created safety plans for all their students based on the fact that anxiety could be escalating. Workload expectations were lowered, as one teacher explained: **"Sometimes that meant that our expectation of workload was very much secondary to working on their wellbeing"** (DALE Young Parents English and Art Teacher, Interview Interview).

STAFF WELLBEING

Frequent communication between teachers was important for enhancing staff wellbeing.

Irrespective of whether teachers were working at home or at school, the staff had daily meetings. The staff at DALE Young Parents would Zoom in the morning just to touch base, and they would often have informal Zoom meetings during the day. This frequent communication about their students was considered important to supporting students: **"So that was very fluid, and it was very frequent and that was probably a key to the success of it: the communication between all of us"** (DALE Young Parents Visual Arts Teacher, Interview).

The DALE staff would debrief every afternoon via Zoom. The staff at home appreciated the connection with colleagues and there was often a fun element to the session, such as meeting themes like 'bring your favourite cup of tea', or 'dress in formal wear' or 'dress in holiday wear'. One teacher said, **"It was a bit more light-hearted, a bit more fun, about connection-building"** (Year 8 DALE Teacher, Interview).

Staff confidence was boosted by early digital upskilling.

“The staff learning was immense and actually one of the things that came out of it was their fear became ‘a confidence’ that they can ‘do stuff’. So that was big” (Brant, School Leader Focus Group).

The school decided to expedite implementation of their LMS (iLearn). They ended the school term a week early for students and used that week as professional learning time for teachers to explore online learning issues and learn to use the new system. The operations manager and IT support person were coaching and mentoring teachers and talking them through putting their lessons online. The teachers found this very effective, as one teacher remarked: **“The support that they offered made us feel confident that we could do it”** (Year 8 DALE Teacher, Interview).

Practices continuing beyond school lockdown period

Continued use of learning management system to support a hybrid (dual delivery) approach.

Use of the school’s new LMS (iLearn) for teaching is now an embedded practice at the school. Since the 2020 remote teaching period, those teachers who struggled have been upskilled so they can seamlessly use the platform. Staff post daily blogs and lesson plans, so the volume of student email correspondence has dropped dramatically. Students have also recognised this change: **“Now that I know iLearn better, I think it would be a lot easier. If there was another pandemic, really it’d be a little bit easier”** (DALE Student Focus Group).

The LMS (iLearn) is now particularly useful for students who need to be learning at home, for whatever reason. This is a frequent occurrence in both schools due to a variety of complex student needs. Absent students still typically want to engage in learning because: **“they still want to keep some kind of routine and normality for them. So that’s probably the biggest thing that we would take from it [remote teaching period], how we can still help those students”** (Stage 6 DALE Teacher, Interview). When students are absent, for either short or extended periods, teachers are able to direct them to iLearn rather than sending them individual emails with all the work attached. This more efficient process saves a lot of time.

The DALE school is still using a dual delivery process, which suits their students. If a student is going to be away, they still check-in online at 9am each day.

“Their routine at school is replicated at home. ...a visual timetable goes up on the board and that visual timetable comes through the learning management system on their course page. So any students at home know to get online at 9am, and find out what’s happening for the day. The teacher will have conversations with them about what their learning’s going to look like in a variation because they’re at home and then there’s a check-in again at the end of the day with their wellbeing assistant. That’s been a real positive.” (Brant, School leader Focus Group)

The DALE students reiterated the usefulness of the hybrid, dual delivery mode that has continued since the period of remote teaching.

“There is the option if you are away, like to Zoom call if you do need help, or need to talk to the teacher. We didn’t do that before.” (DALE student focus group)

“I broke my ankles and I was off school for a little bit, so it was good to be able to have that option to Zoom in with the teachers whenever.” (DALE student focus group)

“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”

(Principal, Interview).

Future planning to maximise beneficial effects of remote learning for some students.

Some DALE students worked more effectively at home during the remote teaching, and the school is planning how to better cater for these students' needs. This was acknowledged by both staff and students. Some students felt that they found it easier and less distracting to work at home. **"I just like staying alone because that's how I focus"** (DALE Student Focus Group).

Teachers found that a number of students whose attendance was quite low prior to COVID, were more engaged than what they were previously.

"We identified some students who were able to do a lot more Maths work at home because they didn't have the distractions of a clicking pen or someone else writing next to them. We've also got lots of students that are hypersensitive to sound." (Year 8 DALE Teacher, Interview).

The teachers are now considering how they can use these observations to benefit the learning of these students post-pandemic.

Improved wellbeing systems maintained.

The DALE schools have kept many of the wellbeing check-in procedures that were a feature of the remote school lockdown period. One of the school leaders reflected on the improvements to their wellbeing system: **"being able to carry that over has been a great benefit"** (Wendy, School Leader Focus Group). Staff at both schools believed they were more united as a staff, and benefited from the opportunity to collaborate in new ways with colleagues: **"we created connections with people that perhaps we hadn't really had the opportunity to create connections with before"** (Year 8 DALE Teacher, Interview).

Ongoing use of virtual teacher professional learning opportunities.

The period of remote teaching was seen as having a beneficial effect on teachers' professional learning. Staff members now take advantage of virtual professional learning opportunities that otherwise would have been impossible to access due to time or travel costs. Teachers are far more likely to access professional learning that is being conducted via Zoom, or asynchronously online at a time that suits them. **"It's had a huge impact on staff being able to improve their knowledge and their ability to engage students in the areas that they are interested in"** (Year 8 DALE teacher, Interview).

Participants' recommendations and lessons learned

Maintain student connection and engagement through enjoyable activities.

It was very important to the teachers to maintain student engagement. They believed that if students stayed connected to their learning and peers, that when they came back to school they would still feel connected to their class. During the period of remote learning the staff realised that the students could easily choose not to connect. As they believed this connection was important, they tried to keep the sessions light-hearted and fun.

The DALE Yong Parents teachers also targeted the students' babies and toddlers, which had amazing benefits for the young parents' mental health. The teachers found that having the ability to connect with the students, in whatever way they creatively could, both sustained the students and the teachers as well.

"We didn't panic, and we understood the value of learning that's not just on a written page, all the different learning that goes on in life, and just kept to seeing the bigger picture."

(Wendy, School Leader Focus Group)

"We didn't panic, and we understood the value of learning that's not just on a written page, all the different learning that goes on in life, and just kept to seeing the bigger picture." (Wendy, School Leader Focus Group)

Separate work and home life to support wellbeing

Teachers found that when they were working from home, there was no clear end to the school day. Sometimes they found themselves making phone calls and doing check-ins far beyond normal working hours. There was no clear distinction between work and home. The advice from the teachers was that, should they be in that situation again, they would put more structure into their day to provide a delineation between school time and family time.

Ensure effective training to elevate staff confidence.

During the remote teaching period in 2020, there was an air of uncertainty that created worry and stress. Being well trained in the technologies and systems to enable effective teaching was viewed as countering this to some degree. Should schools have to return to a period of remote learning, the staff feels that they would approach it more confidently as a result.

"If this was to happen again, we would all feel much more confident being able to go into lockdown or go into teaching via iLearn, Zoom. I think that we would feel much more upskilled to be able to do that" (Year 8 DALE Teacher, Interview).

