Meriden Anglican School for Girls

Digital practices to support learning

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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-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 Schoolbox 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.

"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).

> 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

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.

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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)

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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.

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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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.

"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).

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).

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.

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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.

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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. 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.

"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).