

Affiliated Schools Research Program Final Report

Teachers' Digital Pedagogies Before, During, and After the COVID-19 Pandemic 2020

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Part 1. Achievement statement

TEACHERS' DIGITAL PEDAGOGIES BEFORE, DURING, AND AFTER THE COVID-19 PANDEMIC 2020

2020-2021

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WHY THIS PROJECT?

2020 and the coronavirus pandemic brought an unprecedented shift to remote learning. This meant our teaching environments were drastically changed. Rather than being able to walk around the room as students worked in groups, we shifted to “popping in” to virtual breakout rooms and posting material for students to complete each week.

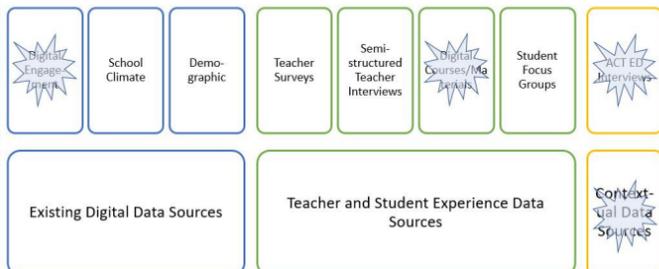
The aim of this study was to examine the factors influencing and the effects of digital pedagogies in the ACT before, during, and after the COVID-19 pandemic.



2 SCHOOLS
20 TEACHERS
8 STUDENTS

- Climate survey data
- A short survey (12 valid responses: 11 from School A and 1 from School B)
- Interviews with 8 teachers from School B
- Two student focus groups with 8 students from School B.

Data Sources



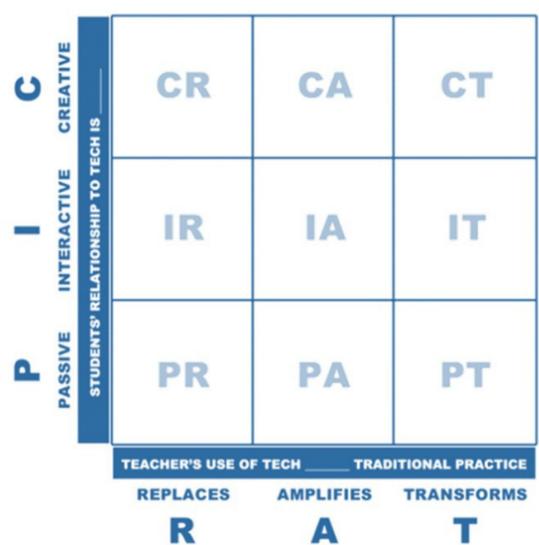
Question 1: What factors influenced teachers' digital pedagogies before and during, the COVID-19 pandemic remote teaching period of 2020?

Question 2: What factors influenced teachers' digital pedagogies after the COVID-19 pandemic remote teaching period of 2020?

Question 3: How did student digital engagement change before, during, and after the COVID-19 pandemic remote teaching period of 2020?

ANALYSIS

Themes were identified via the research questions and the PICRAT model from Kimmons, Graham, & West (2020). The model simultaneously considers the teacher's use of technology and the student engagement and relationship with the technology.



KEY FINDINGS

Prior to COVID-19 remote learning

Most teachers across the two schools felt confident in their ability to incorporate digital technologies for teaching and learning and were using digital resources frequently across their regular classroom practice prior to the remote learning period.

Digital technologies were used in instructional time to access video resources, PDF documents, PowerPoint slides, Google docs or for assessments.



During COVID-19 remote learning

Many teachers utilised a mix of asynchronous and synchronous digital pedagogies, **with an emphasis on the asynchronous approach.**

Why mostly asynchronous?

- Online safety and privacy issues that surround a “live” teaching session
- Personal factors impacting on teachers’ ability to run many synchronous classes daily
- Equity and access issues associated with students having the bandwidth to join synchronously
- Consolidation and use of existing asynchronous resources



PROFESSIONAL LEARNING

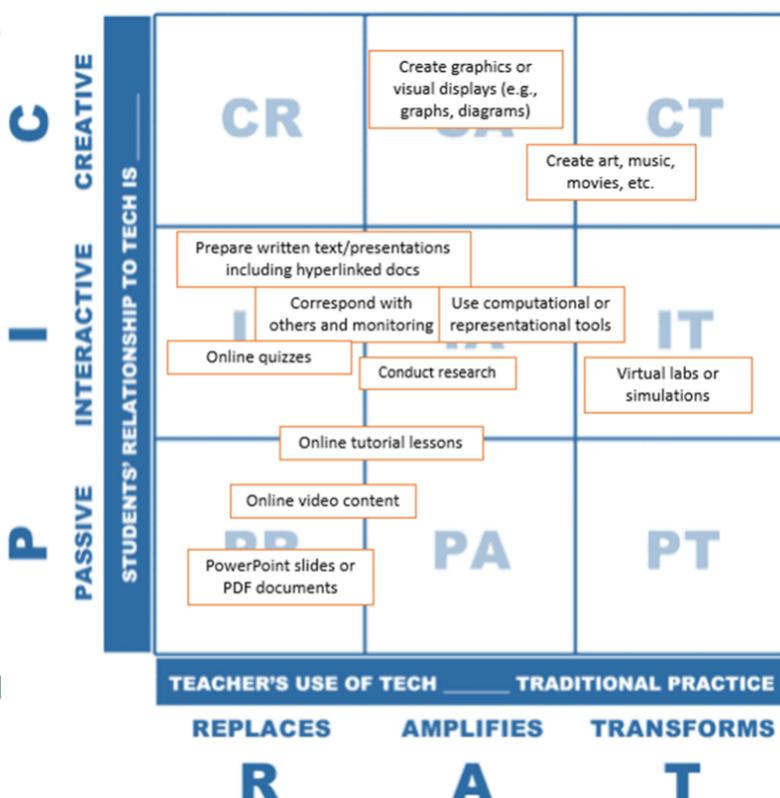
Predominantly in-school PL through remote learning team, with strong digital technology leadership/mentorship. Directorate offered PL mostly utilised for Google Suite. Opportunities for more PL for practical-based subjects.

MAPPING ACTIVITIES TO PICRAT

Teachers’ use of technology mainly fell in the **replacement or amplify elements** with few uses transforming practice.

Students were mostly **interacting with** the digital technology through shared documents and the like. However, much of the digital material was received **passively** by the students.

The **least utilised** activities fell into the **creative element** of student engagement and very **few activities truly transformed practice** according to the PICRAT model.



After COVID-19 remote learning

Responses indicated that the use of digital technologies returned to pre-COVID-19 levels after the return to the classroom.

For some teachers, there was a sense of changed practices now that they had the online material available to them or that they have changed assessment practices because of remote learning period. There was a sense of learning from their mistakes in the digital space.

“I’m not just preparing things online for kids who are doing ‘distance Ed’ but I’m preparing them for anyone who doesn’t happen to be in the room”

Mix of both engagement and disengagement with school work

Enjoyed the flexibility/individual learning of online/remote learning

Student Responses

Online/remote learning ≠ in-class learning

Good use of digital technologies in schools generally

Caring/family responsibilities and paid work impacted on students

Part 2. Executive Summary

Project Context

Background: 2020 and the coronavirus pandemic brought an unprecedented shift to remote learning. This meant our teaching environments were drastically changed. Rather than being able to walk around the room as students worked in groups, we shifted to “popping in” to virtual breakout rooms and posting material for students to complete each week.

Emerging research from this period has focused on student access, participation and engagement and teacher readiness and support. The findings at this point have been quite varied, influenced by equity of access and teachers’ prior experiences with digital pedagogies. These factors are the same as those influencing technology implementation in times of relative normality and were further amplified during the pandemic.

The ACT Education Directorate was uniquely positioned to respond to this shift thanks to the 1:1 Technology Enabled Learning Initiative known as “Better Schools for Our Kids” where each secondary student was supplied with a Chromebook laptop enabled with a specialised Google G Suite for Education. Similar initiatives have been enacted in various places in the world focusing on student achievement and engagement, systemic challenges for integration, and teacher confidence, readiness, and support.

Please note that this project commenced at the end of 2020, after the first period of remote teaching. This report does not consider the changed teaching practices for the second period of COVID-19 remote teaching in 2021. All data was collected prior to the second remote teaching period.

Project Aim and Research Questions

The aim of this study was to examine the factors influencing and the effects of digital pedagogies in the ACT before, during, and after the COVID-19 pandemic.

Question 1: What factors influenced teachers’ digital pedagogies before and during, the COVID-19 pandemic remote teaching period of 2020?

Question 2: What factors influenced teachers’ digital pedagogies after the COVID-19 pandemic remote teaching period of 2020?

Question 3: How did student digital engagement change before, during, and after the COVID-19 pandemic remote teaching period of 2020?

Project Approach

Data was collected from the climate survey for student responses to remote learning and basic demographics; a short survey; interviews with teachers; and student focus groups. Participants included 20 teachers and 8 students from two schools in the ACT. Data was analysed through a thematic approach and mapped against the PICRAT matrix, which simultaneously considers the teachers’ use of technology and the student engagement and relationship with the technology.

Project Outcomes

Key outcome 1: Teachers were frequently using digital technologies for their teaching and learning prior to the COVID-19 remote learning period and that most were confident in their ability to successfully implement digital technologies into their teaching practice. The challenges of moving to fully remote learning as the pandemic hit were mostly associated with the synchronous aspects of online teaching and learning. However, the use of the asynchronous aspect was embraced by most teachers and for the participants in this study, it did not prove beyond their capabilities. Some concerns were raised about the level of PL for delivery of practical subjects that rely heavily on physical movement such as performing arts and physical education. There are opportunities to develop specific training and procedures around remote learning for the practical-heavy subjects.

Key outcome 2: As shown by the mapping of activities across the PICRAT matrix, there seemed to be a high level of student interactivity with the digital technologies and teachers using the technology to amplify their practices. However, the most utilized activities were replacing traditional practices and students were passively engaged. So whilst there was a range of different activities evident across the matrix, there was a loading on the bottom left corner of the matrix for the main delivery of content. There are opportunities to think more creatively about content delivery beyond recorded video content, including more interactive elements within the recorded material such as discussion boards, Flip Grid, and Padlets.

Key outcome 3: The student responses to the climate survey items about attitudes towards remote learning suggest the over reliance on replacement pedagogies (online videos, readings, etc) did not represent learning equivalent to face-to-face for many students. There are opportunities for the Education Directorate to facilitate PL promoting more amplification and transformation type activities for online learning.

Key outcome 4: It was evident that the staff at UCSSCLG were reflective on their digital technology practices when returning to the classroom after the COVID-19 remote learning period. Some considering the work undertaken to prepare for the remote learning to be highly beneficial as they have refined their own teaching and can use those materials for a variety of purposes. Others have reverted to traditional classroom practices. It is suggested that teachers continue to make use of all the online material generated for the remote learning period within the regular classroom. Uses include as revision material, supplementary material for those who need extra guidance and background material prior to class so that in-person class work can focus on depth of understanding.

Key outcome 5: Across the board there was a mixed reaction to student engagement through COVID-19 remote learning. The flexibility suited some students and not others, who found it difficult to manage their time and their motivation to complete work. Some approached the time with a schedule to keep them on track, others were more inclined to do the work as it came in or as they felt motivated to do so. There are opportunities to further explore this variability in relation to student study behaviour within the regular classroom and how this compares with remote learning behaviours.

Key outcome 6: With regards to student engagement, there appears to be a conflict between the teachers' and students' perspectives on the level of work and depth of engagement. On one side, teachers were attempting to navigate the boundaries between duty of care, privacy, workload and delivering content compared to students' thoughts that some of the more creative elements were "too hard" for teachers or that the level of feedback received did not warrant completion of the work.

There are opportunities to better understand the expectations of completing online work from both perspectives and consideration of assessments or work that includes *differentiation of the product*¹ (see Tomlinson, 2014; Wu, 2013), where students have the choice of how to deliver the work they have completed. However, there needs to be a broader conversation around the best pedagogical practices for online work that is subject specific and the expectations for constructive feedback on work completed.

The move to COVID-19 remote learning in 2020 was difficult for all involved in education, from systems, teachers, parents, and students. In the ACT, the Education Directorate was uniquely positioned to respond quickly to the challenge as professional learning around digital pedagogies as digital infrastructure and hardware had already begun to be rolled out. This report highlights some of the successes and challenges faced by teachers and students at the time and how that impacted on their teaching and learning during 2020.

¹ Further information about Tomlinson's model of differentiation can be found here: <https://education.nsw.gov.au/teaching-and-learning/professional-learning/teacher-quality-and-accreditation/strong-start-great-teachers/refining-practice/differentiating-learning>

<https://www.education.vic.gov.au/school/teachers/profdev/Pages/Module-4.3-Differentiation-as-a-teaching-approach.aspx>

Part 3. Detailed Report

Research questions

Question 1: What factors influenced teachers’ digital pedagogies before and during, the COVID-19 pandemic remote teaching period of 2020?

Question 2: What factors influenced teachers’ digital pedagogies after the COVID-19 pandemic remote teaching period of 2020?

Question 3: How did student digital engagement change before, during, and after the COVID-19 pandemic remote teaching period of 2020?

Methodology

Participants

Three schools were invited to participate in the study. We had full engagement from one school, University of Canberra Senior Secondary College Lake Ginninderra (UCSSCLG), minimal engagement from the second school, Amaroo School, and no engagement from the third school, Alfred Deakin High School. Alfred Deakin High School were removed from the study, hindering the broader applicability of the result of this study.

11 teachers from Amaroo School provided responses to the online survey and 1 from UCSSCLG. Eight teachers across a range of subjects from UCSSCLG participated in one-on-one interviews and eight students from UCSSCLG participated in two focus groups.

Demographics

Table 1: Demographic information for UCSSCLG and Amaroo School.

Demographic	UCSSCLG	Amaroo School
Year levels	11 and 12	Preschool to 10
Teaching staff	55	138
Total student enrolments	674 (49% female; 45% male; 6% other/prefer not to say)	1839 (45% female; 48% male; 7% other/prefer not to say)
Language background other than English	24% Yes 76% No	43% Yes 57% No
Aboriginal or Torres Strait Islander students	5%	3%
ICSEA*	1025	1068

Note: * ICSEA average is 1000, scores for each school based on 2020 data.

Data Collection

In the first phase of the study, data was collected from existing digital sources regarding digital engagement, school climate, and demographic data.

During the second phase of the study, data was collected through teacher surveys, teacher interviews, and student focus groups.

Due to unforeseen circumstances, the team were unable to access data related to digital engagement and digital course materials via Google Classrooms. We were also unable to interview ACT directorate to provide a broader

context, however we were provided with background information regarding technology initiatives within the directorate. Figure 1 illustrates the final data sources used in the project.

Methods – Data Sources

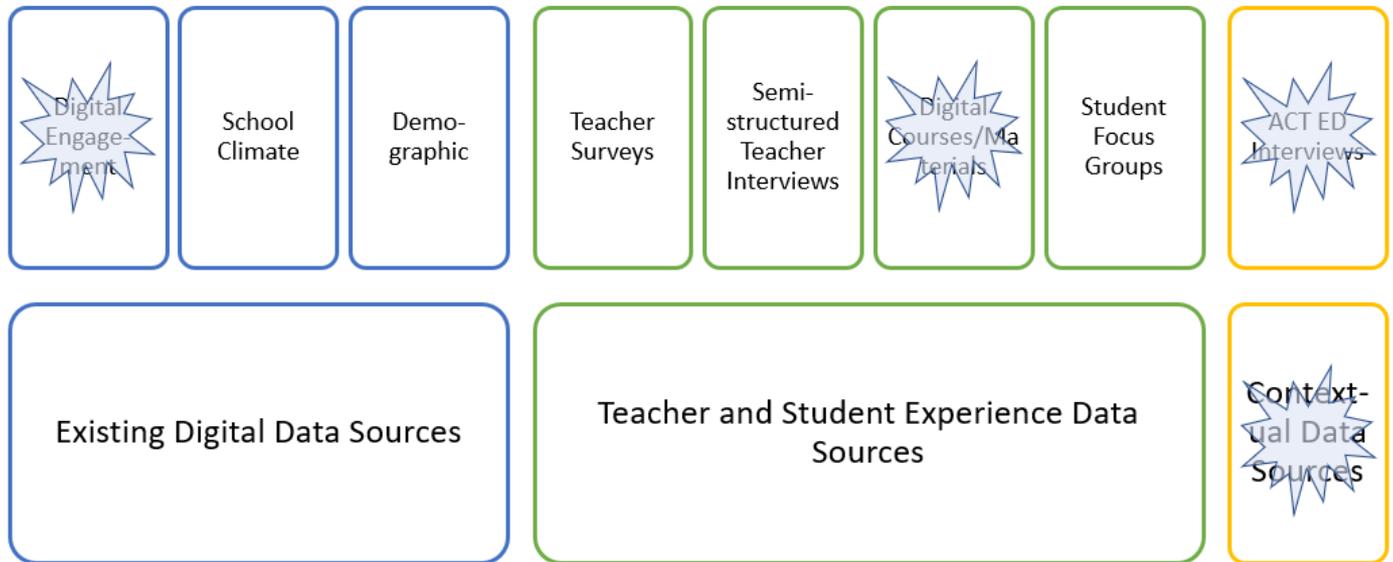


Figure 1. Data sourced utilised in the project.

The resulting data used in the project included:

Existing data sources:

- For each of the two remaining participating schools, a snapshot of student responses to remote learning via the climate survey and basic demographics.

Collected data (All interview and survey questions can be found in Appendix A):

- a short survey (12 valid responses: 11 from Amaroo School including primary school teachers, 1 from UCSSCLG);
- interviews with 8 teachers from UCSSCLG; and
- two student focus groups from UCSSCLG, with a total of 8 students.

Data Analysis

The 2020 student school climate survey data was aggregated by the ACT directorate and the project team was provided with the following data for each of the three schools:

Demographics

- Aboriginal & Torres Strait Islander students
- Home language other than English
- Gender

Other demographic data was obtained from the MySchool website.

Satisfaction responses to digital items

- At this school digital technologies help me to learn

- Digital technologies help me to manage my school work
- I know how to be a good digital citizen
- Students at this school are being equipped with the capabilities to learn and live successfully

The Online Learning Achievement scale 2020

- Learning is the same in class and at home.
- I believe that learning online is more motivating than a traditional class.
- I believe a complete course can be given online without difficulty.
- I believe that material online is better prepared than a traditional class.
- When it comes to learning and studying online, I can set my own pace.
- In my studies online, I am disciplined and find it easy to set aside reading and homework time.
- I am able to manage my online study time effectively and easily complete assignments on time.
- In my online studies, I set goals and have a high degree of initiative.

All survey and interview data collected for the project was analysed using NViVO software. Themes were identified via the research questions and the PICRAT model from Kimmons et al., (2020; see Figure 2). The model simultaneously considers the teacher’s use of technology and the student engagement and relationship with the technology. Please note that the survey responses to the PICRAT model were not reported on here as the participants did not have enough structural understanding of the model to answer with a critical reflection of their practices.

Along the bottom the focus is on how teacher’s use of technology changes their traditional practices. Does it *replace*, such as providing a video rather than a face-to-face lecture; *Amplify* such as using digital tools to measure or analyse data; Or possibly *transform* a previously inconceivable outcome without the aid of technology?

Along the left we also consider what the students’ relationship to the technology might be. Are students only passively consuming, such as listening to a video without prompts, are they interacting such as with a collaborative google doc, or are they creating their own new artifacts or materials?

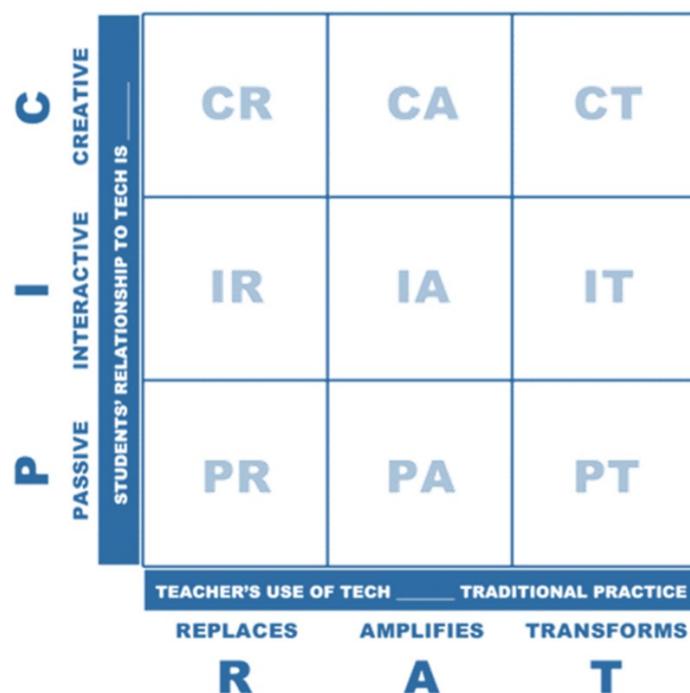


Figure 2. The PICRAT model from Kimmons, Graham, & West (2020).

Findings

Question 1: What factors influenced teachers' digital pedagogies before and during, the COVID-19 pandemic remote teaching period?

Teacher background:

Responses to the survey administered after the remote learning period, teachers indicated that they used digital technologies daily or two or three times a week to:

- Access, organise and develop curriculum resources;
- Create learning resources for their classes; Share learning resources that they have created with other teachers within their school;
- Help students understand content and concepts they find difficult;
- Develop digital literacies, including the ability to authenticate, critically evaluate and select relevant information and resources;
- Differentiate learning so that it is personalised to students' needs;
- Provide students with enrichment and extension opportunities; and
- Support students' development of literacy and numeracy.

They used digital technologies approximately once a week to:

- Assist students to set and achieve learning goals;
- Expand subject provision for students through virtual learning;
- Help students understand and solve real-world problems; and
- Actively promote digital technology use within your school for learning and teaching.

They used digital technologies approximately two or three times a month to build partnerships with experts, industry, cultural organisations and communities to facilitate authentic learning opportunities.

When asked about their confidence levels with digital technologies through the survey, teachers felt the most confident with ensuring digital technologies used in their classroom were relevant to learning activities. They reported feeling moderately to very confident:

- Ensuring ready access to digital technologies for students in their class;
- Supporting students to use digital technologies at home e.g. online storage, share drives, learning management system, etc;
- Providing virtual learning opportunities for extension and enrichment; and
- Providing virtual learning opportunities for whole subject delivery.

The interviews revealed that most teachers felt confident in their use of digital technologies for teaching and learning. This school was fairly established in the use of digital technologies to deliver lessons remotely as they cater to students attending the Australian Institute of Sport who are often travelling for competitions and not able to physically attend class. Hence, many of the teachers had experience in delivering work via online platforms such as Google Sites and Classrooms.

It appears that most teachers across the two schools felt confident in their ability to incorporate digital technologies for teaching and learning and were using digital resources frequently across their regular classroom practice.

Pre-COVID-19 remote learning use of technology

Through the survey, teachers reported using digital technologies (e.g., Chromebooks, interactive whiteboards, mobile phones etc) during instructional time in their class daily or two or three times a week prior to remote learning. The teacher interviews at UCSSCLG indicated there was a mix of engagement levels with digital technologies as part of their pedagogy prior to the 2020 remote learning period. Many teachers described their pre-COVID-19 digital pedagogy as posting videos, either that they had made delivering content or explaining materials, or from YouTube and other external resources; providing PDF documents or PowerPoint slides for students to read through; and using Google Classrooms for assessments, quizzes, and daily class work. One teacher reported using video editing software and collaborative google docs for film and theatre. It appears there was a solid foundation from which to build when remote learning was implemented.

During COVID-19 remote learning use of digital technology

During COVID-19 remote learning, many teachers utilised a mix of asynchronous and synchronous digital pedagogies, with an emphasis on the asynchronous approach. There were a few factors that appeared to influence teachers' use of predominantly asynchronous digital pedagogies. A strong theme to emerge from the interviews was the online safety and privacy issues that surround a "live" teaching session. Many of the teachers reported concerns about possible implications for them, and for students, seeing into students houses, bedrooms, personal lives through the synchronous sessions.

Another theme was personal factors impacting on teachers' ability to run many synchronous classes each day. Many had partners and children at home working and studying and some were responsible for helping their children with their own remote learning. Concerns were raised about the workload and pressure placed on individuals to be maintaining the same class schedule via the synchronous sessions.

Equity and access issues were also raised as another factor that contributed to the asynchronous approach. Concerns were associated with students having the bandwidth or technology to join the synchronous classes at specific times, especially if there were many household members requiring access simultaneously.

These concerns were alleviated when school executive at UCSSCLG indicated that the live class sessions were not mandatory.

One teacher did comment on the fact that due to the very practical nature of the subject, they did not have a lot of digital resources already established as other teachers had and that the full workload fell to them to develop the materials. They pointed out that because teachers worldwide were in a similar position, they were able to connect to a range of different groups and established networks to work collaboratively with different teachers and share resources. Hence, the focus of the teachers was to develop or add to their asynchronous online learning resources, which most found accessible and workable due to their pre-COVID-19 digital pedagogies.

Despite much of the learning taking place asynchronously, teachers did utilize synchronous classes for check-ins or drop-ins, and clarification of learning for the week. Sometimes these online sessions would include more than one class, with the whole cohort of a subject having the option to join when it suited them based on the times offered by the teachers. Other times it may have only been a one or two students. These synchronous sessions were undertaken with varying levels of success.

Whilst the synchronous meetings were usually for monitoring attendance and engagement, students also increased communication with teachers via email when requesting assistance. Teachers utilised Google Classrooms more for

communicating content, updates and responses to students’ questions that might benefit the whole class. Providing help for students did come with an increased work load for teachers.

Professional Learning: Interviewees were asked about their engagement with professional learning offered in the transition to COVID-19 remote learning. The school developed a remote learning team who were responsible for providing PL sessions and mentoring staff. Many of the teachers attended these sessions and called upon team members for help. Some indicated they did not receive the specific training they might have needed for their subject, especially the practical subjects like performing arts and PE. Depending upon their previous level of digital technologies confidence and competence, some teachers opted into the Directorate provided PL, particularly around the use of Google Suite.

During 2020 and the remote learning period, the main student activities undertaken via the digital technologies were associated with preparing written texts, engaging with online video content, and corresponding with others, closely followed by conducting research. These tasks were undertaken daily or up to two or three times a week. Other student activities such as creating graphics or visual displays, creating art, music, movies, online tutorial lessons (such as Education perfect or Mathletics), and using computational or representational tools (such as graphing calculators or online manipulatives) all tended to be utilized between once a week and two or three times a month. The least utilized student activity in the digital space was engaging with virtual laboratories or simulations, which was reported as less than two or three times a month.

The types of materials and activities presented to the students asynchronously as described in the survey and the interviews can be mapped onto the PICRAT matrix. This provides a snapshot of the different ways in which teachers were utilizing the technology.

The flow chart from Kimmons, Graham, & West (2020) as seen in Figure 3 was used to evaluate the activities along the RAT dimension.

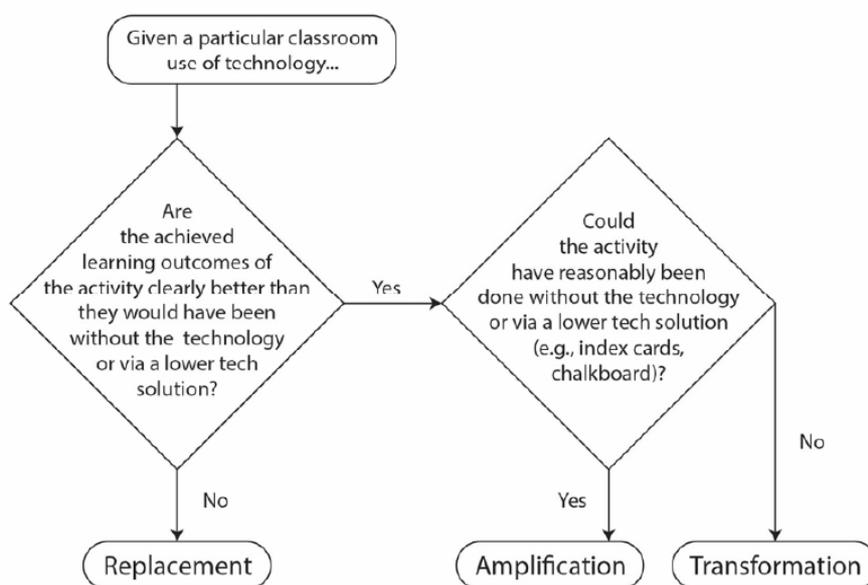


Figure 3. Flow chart for determining the RAT dimensions of the model.

If we consider these types of activities described in the survey and reported from the interviews across the PICRAT model (see Figure 4), the activities map across all three levels of the student engagement or relationship, with many of them sitting in the interactive element. However, the teachers’ use of the technology mainly fell in the replacement or amplify elements with few transforming practice.

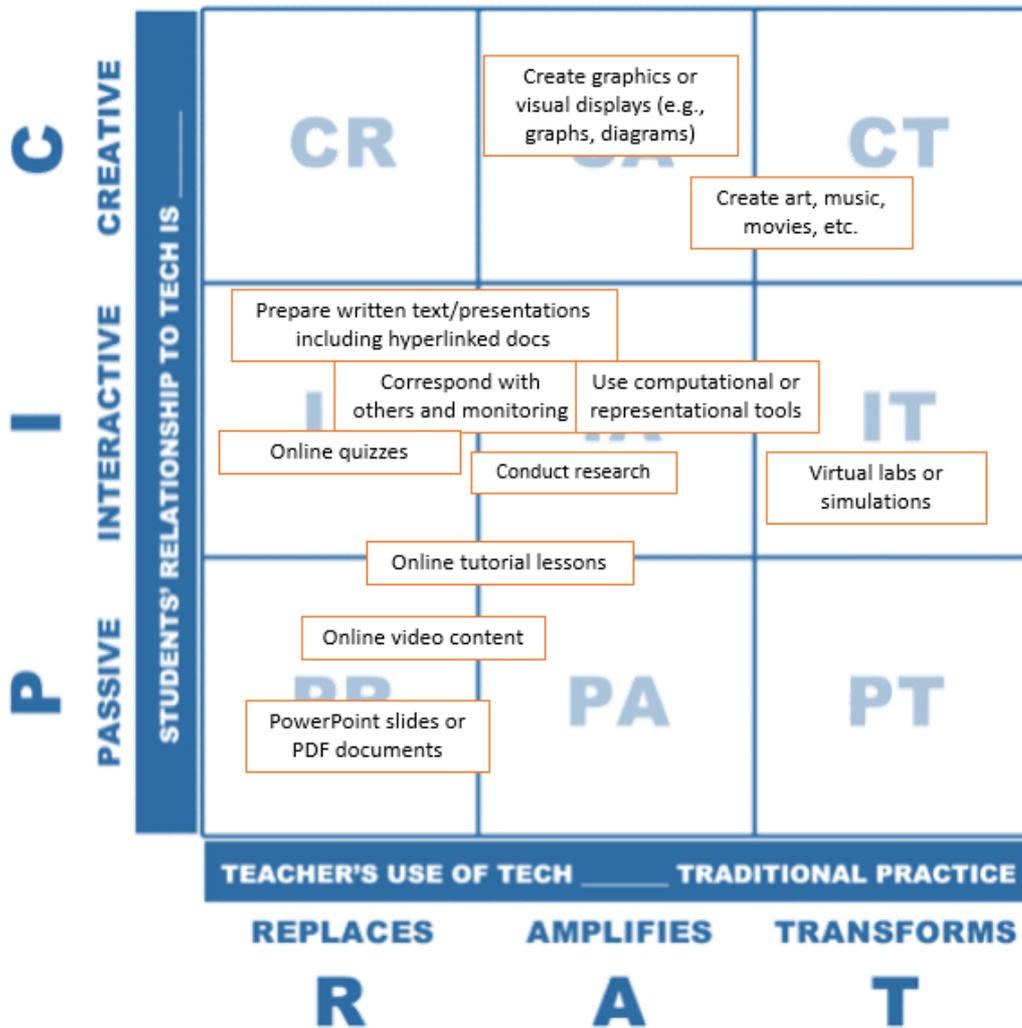


Figure 4. Examples of learning activities mapped to the PICRAT matrix (researcher interpretation based on description of activities).

Online video content, either developed by the teachers or from external resources such as YouTube or educational sites, was the most used activity. Predominantly, these types of videos fall into the passive student interaction and replaces the regular face-to-face practices. Some teachers described using explanatory videos, which may fall into the amplify element of teacher practice. PowerPoint slides or PDF content would also fall into the passive and replacement section.

Importantly, many of the activities related to students interacting with the technology as opposed to being passive recipients via the technology, however, much of the interaction was one-way. The preparation of written documents, presentations, quizzes, correspondence with others via email or Google Classrooms and conducting research all required the students to actively engage with the technology to achieve the outcome. Many of these activities also amplified traditional teaching practices as they may incrementally improve teachers practice but do not fundamentally change their pedagogy.

The least utilised activities fell into the creative element of student engagement and very few activities truly transformed practice according to the flow chart. Two teachers described activities where students were undertaking a form of embodied movement and videoed themselves and uploaded as part of assessment or compared their movement to existing videos online. This demonstrates elements of student being creative and, in some respects, transformed the teachers' regular practice as this may not have been thought of as an option prior to remote learning and hence the technology enabled this type of activity. This type of activity was viewed as quite successful by the teachers.

Question 2: What factors influenced teachers' digital pedagogies after the COVID-19 pandemic remote teaching period?

The survey responses indicated that the use of digital technologies returned to pre-COVID-19 levels after the return to the classroom. So those who were previously daily users, continued with daily use and those who were less frequent, returned to those levels.

The interviews provided further insights into this pattern. A few who were already using the online material for particular students prior to COVID-19 remote learning identified that they continued in that manner, some with improved insight into how best to cater to those students. However, for some teachers, there was a sense of changed practices now that they had the online material available to them or that they have changed assessment practices because of remote learning period. There was a sense of learning from their mistakes in the digital space.

Many teachers indicated that they were still using the online asynchronous resources with their classes as reflection material or for differentiated learning aspects, with others indicating that they were still developing some new material.

One teacher indicated that they were much more considerate of the audience for the online material now:

"I'm not just preparing things online for kids who are doing 'distance Ed' but I'm preparing them for anyone who doesn't happen to be in the room"

This same teacher also used the material to help a pre-service teacher gain a sense of the scope of the subject over the Term.

Another teacher described their reflective approach to the material after returning to the classroom:

"And it's been good because I've been realising I probably didn't explain some things as well as I should have. And it's just been the process of going back and actually teaching it, that I realised I had to either restructure or add information or even delete bits"

They also described embracing the new resources provided from access to the Google Suite:

"...we've embraced all the new things that have been added to the Google Suite. The websites are much better, well have gotten much better. And Google Classroom itself (has) really been easier to use, I feel like"

Conversely, other teachers have not used the material as much. One teacher indicated that due to the cyclic nature of the material presented across the college curriculum, they haven't taught those units again since, but they have those materials available to them if needed. Another suggesting that the use of a particular resource was not used again since:

"If we can do a prac (practical lab), we do a prac."

Some teachers described keeping the modified assessments implemented during the remote learning period, with one teacher explaining:

"I've gone to a larger..... it's a presentation, but as with COVID last year, I've actually dropped a test. So (what) I'm doing currently now, their third assessment piece, which is worth 40%. It's going to be a progressive thing, so they're not going to get marked each week, but we've got checkpoints two, four and six weeks in, just to make sure that they're

on track. And it's a bit of a trial, but yeah, I suppose I've changed..... I just didn't want to teach for an exam, I wanted to try and get them engaged..."

There was some discussion about the ease of using Google Meets as a synchronous platform now and having more familiarity with how that functioned.

Another factor that came through the interviews was the increased discussion more generally amongst staff about online materials and different resources available to help pedagogically. For example, discussion about the best applications to use to deliver materials or capture attendance etc. The strong digital technologies team within the school also facilitated this.

Question 3: How did student digital engagement change before, during, and after the COVID-19 pandemic remote teaching period?

Student results from the climate survey for both UCSSCLG and Amaroo School are presented in the Figures 5 and 6 for the digital technology satisfaction items and Tables 2 and 3 for the attitudes to learning at home for Term 2, 2020.

Across the two schools, students were very positive and generally very satisfied with the use of digital technologies used in the schools. These results are consistent with the average across all schools in the ACT Directorate (data not shown here). UCSSCLG students tend to feel more neutral towards digital technology's role in helping to manage schoolwork and knowing how to be a good digital citizen than the students at Amaroo School. The focus groups confirmed that many of the students were confident with their own capabilities regarding using the Chromebooks or their own personal device and that they felt prepared from this perspective during the move into remote learning.

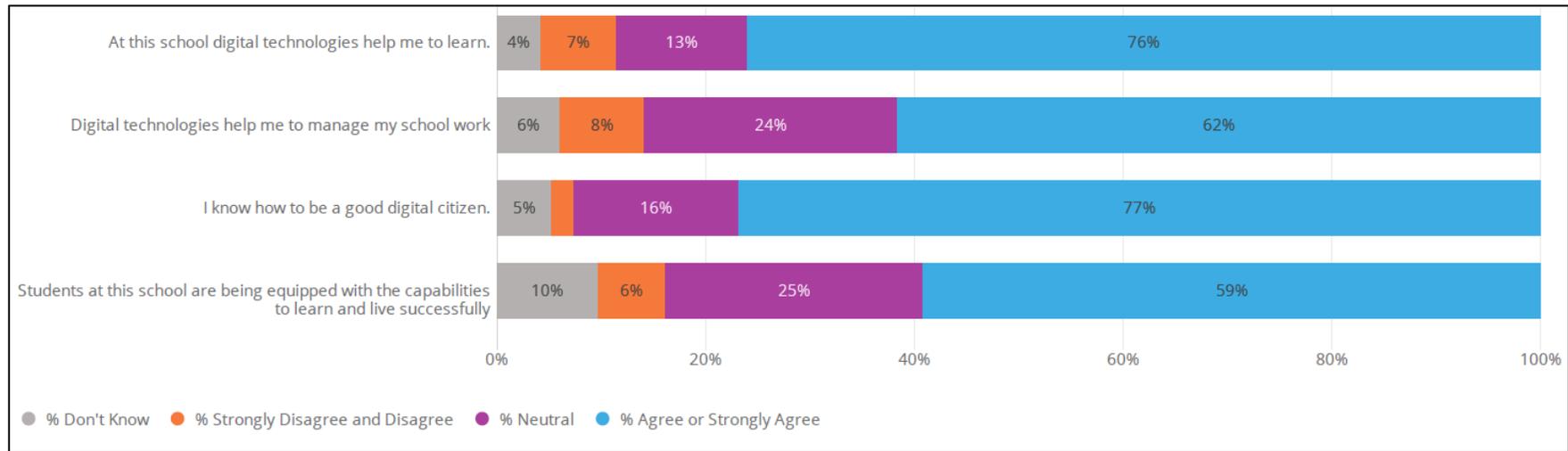


Figure 5: UCSSCLG satisfaction to digital technology use items (252 respondents)

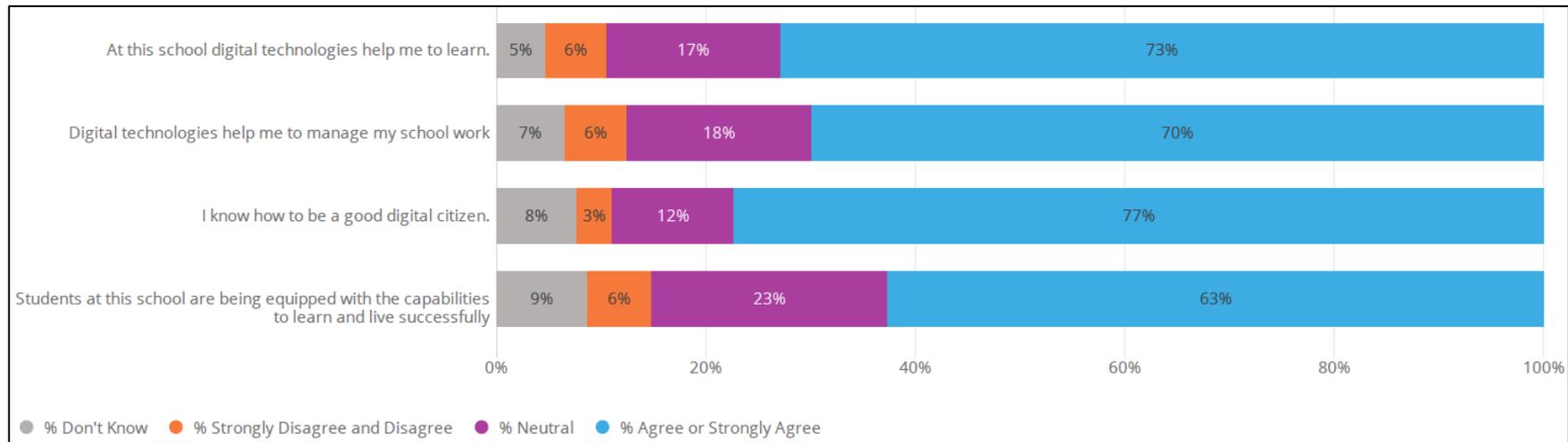
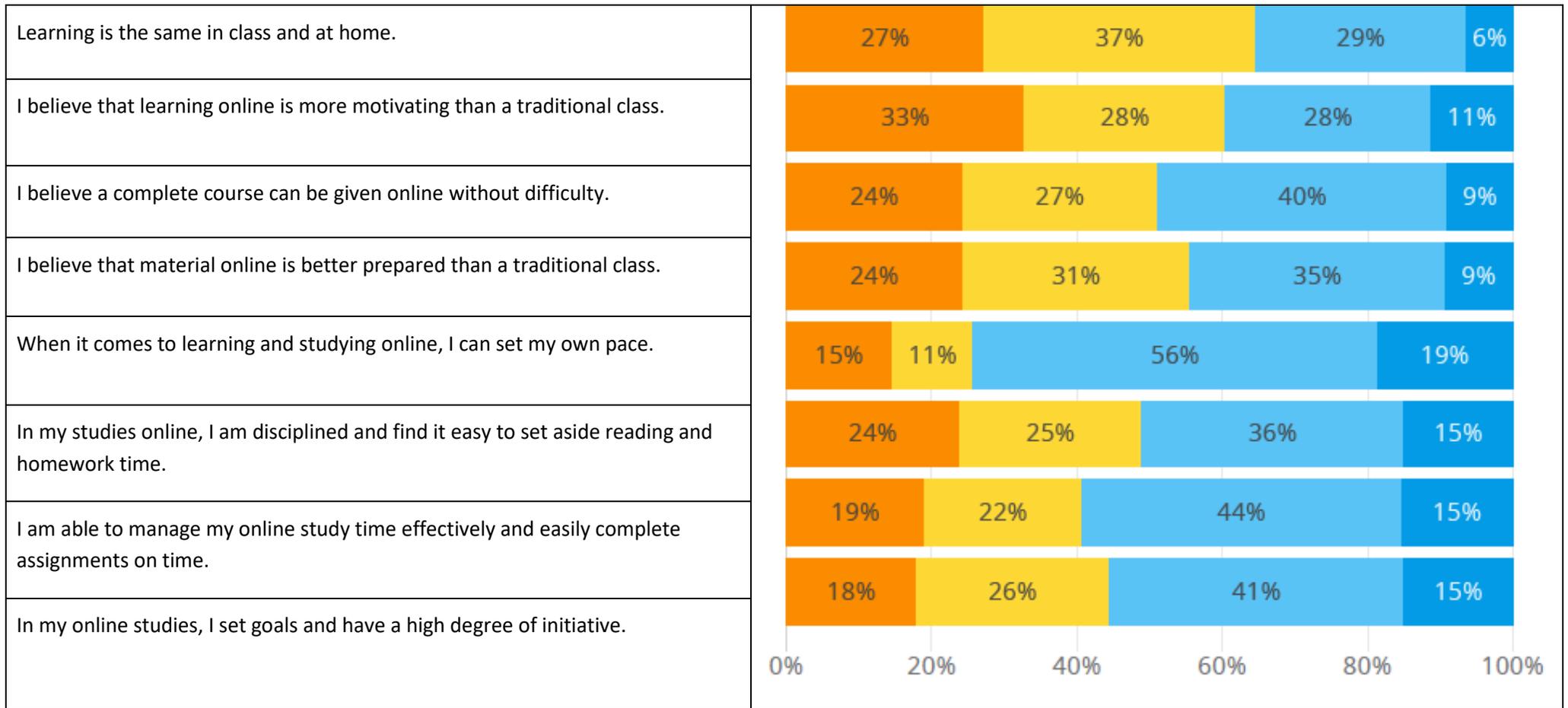


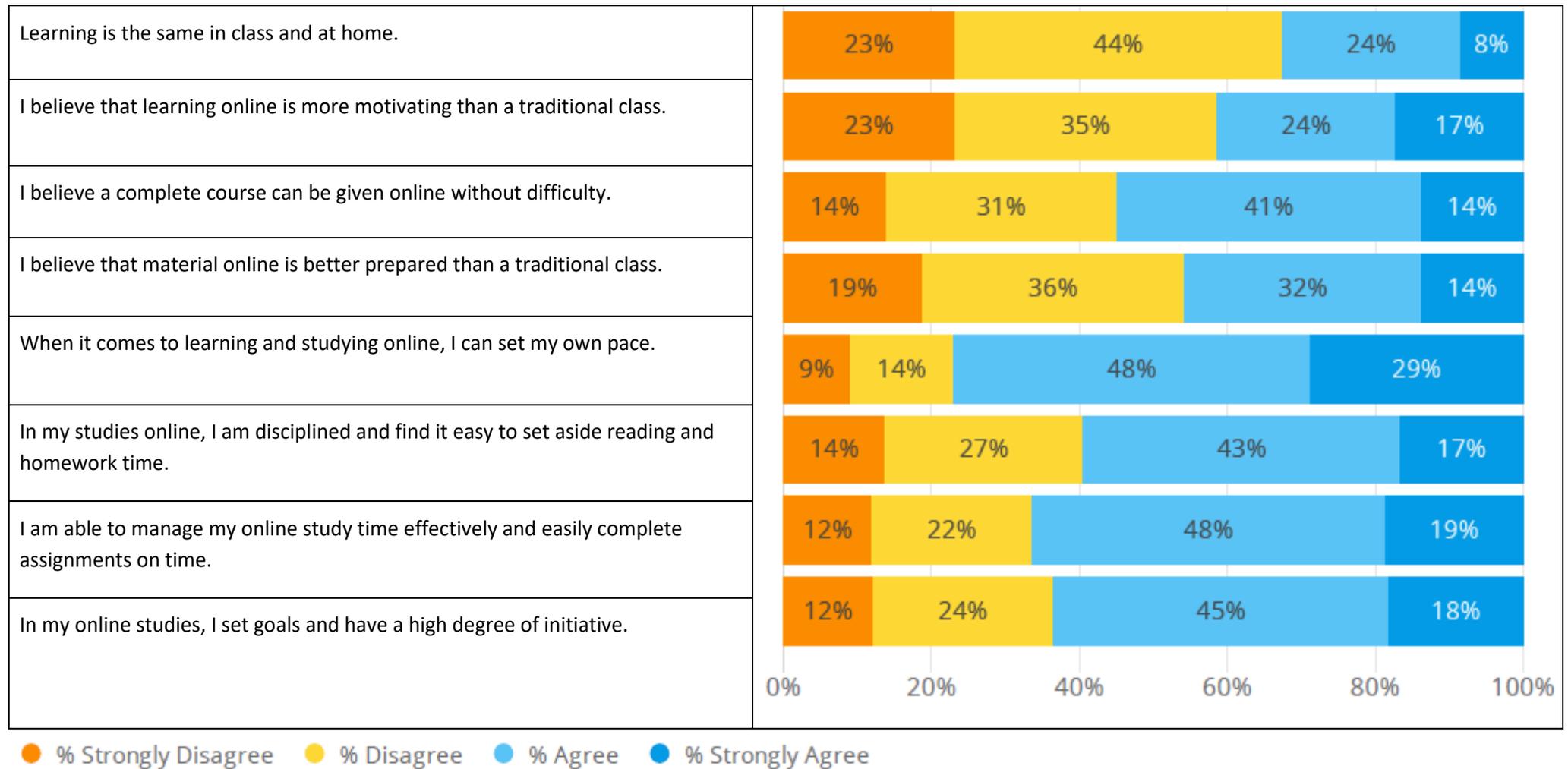
Figure 6: Amaroo School satisfaction to digital technology use items (948 respondents)

Table 2: UCSSCLG Student attitudes to learning at home during Term 2 (No. of respondents unknown)



● % Strongly Disagree
 ● % Disagree
 ● % Agree
 ● % Strongly Agree

Table 3: Amaroo School Student attitudes to learning at home during Term 2 (No. of respondents unknown)



From Tables 2 and 3, students at the two schools mostly disagreed with the first four statements, and these generally related to the equivalence of the online material/home learning compared to in class. UCSSCLG students felt strongly that online learning was not as motivating as being in class and Amaroo students felt strongly that learning was not the same in class and at home. This could suggest that the high levels of replacement activities as opposed to amplification or transformation type activities were not seen by the students as equivalent pedagogies to face-to-face learning.

Students were much more in agreement with the final four statements, which generally related to the individual learning aspects of online material/home learning. Students across both schools enjoyed the flexibility that home learning provided, allowing them to set their own pace with their studies and manage their time better with respect to classwork and assignments.

The focus groups indicated a mix of anxiety, excitement, and nervousness when remote learning was announced. For some, the anxiety came from a lack of routine which attending school provides, the lack of social interaction with their peers and interruption to exams and other assessments. Others were excited as it was something new, but also nervousness around the uncertainty of how long this pandemic and remote learning would last.

Drawing on the results of the climate survey, the focus groups corroborated the findings relating to the individual aspects of remote learning.

“just having the freedom to structure your day how you wanted to. There wasn't a designated time for each class, you could spend how long or how short you wanted on each class”

“I felt like I had more free time because I could do what I wanted when and I could watch the videos on double speed and it would take, it was supposed to take an hour and it took me half an hour and then I could go outside or take my dog for a walk, and I just had time to do whatever which I don't normally have regularly”

Students identified that the flexibility of remote learning suited their requirements however, there were very different approaches to what a “typical” week looked like. Teachers and students described that work was typically posted in Google Classrooms at the start of the week, either Monday or Tuesday, to be completed by Friday. Without the routine of regular classes, students described almost dichotomous approaches to their remote learning.

Some students described having to set a routine for the week (or having a parent help them set a routine). They needed that structure to ensure they got through the work. Routines varied across these students, from tackling the easiest subjects first, through to committing to a few hours work per day, and even completing all the work on Monday and Tuesday and revisiting on Friday, having Wednesday and Thursday off. So, whilst the routines varied, the consensus among these students was the routine helped with mental health, achieving the set work each week and giving time for exercise and relaxing.

Conversely, other students reported not setting a routine. Getting up whenever they liked, not setting themselves any goals to achieve each day or just working through the material based on what was due first. Some picked up extra shifts at their paid jobs. Some put this down to “switching off”, others suggested that with everyone at home, it was hard to concentrate on their studies. These students reflected that this approach led them to get behind on work and had an adverse effect on their mental health.

In relation to the actual schoolwork, there was a sense that there was increase in work provided in the COVID-19 remote learning period compared to regular class, especially in relation to particular subjects.

Teacher interviews revealed that some of the biggest success and challenges of the remote learning period related to student engagement with the online materials and learning generally. A common theme across the interviews was that those students who generally engaged in class, were the ones who continued to engage and those that were not so engaged previously, became even less engaged. There was some observation that those who were quiet in class (but not necessarily disengaged), thrived in the remote learning environment as they were able to showcase their understanding through different ways rather than putting their hand up in class to answer a question:

“I think some students thrived in that environment. And I thought there was some students who particularly thinking about Literature, like, you know, literature classes are often quite loud, but some of the quiet kids were able to shine in a different way in my class”

“When they were home, it felt like we were getting more work, more questions, definitely sometimes questions from kids that you don’t normally hear from in class, which could be a social thing like it was easier to ask a question with no one else around”

Teachers observed that some students’ engagement dropped off and didn’t attend any synchronous lessons, did not complete the set work and did not use the weekly check-ins:

“So we had a lot of students go missing, but the ones that were engaged did pretty well. There were some kids that just would do something...one thing every three weeks, and then we also had some students that would disappear for two weeks, but then they do three weeks work in that week”

It was observed from the teachers’ perspective that there was an uptake in paid work also, which impacted on general engagement:

“we had a lot of students that then began working full time and so their engagement was lacking a bit because they had school hours that were free they were picking up, especially the guys who worked at Woolies and Coles and things like that, they picked up a lot more hours so you could see their engagement reduced”

Different techniques were employed to monitor weekly engagement. Completion of set weekly work was used, along with statistics on who had accessed, interacted with, and submitted work through Google Classrooms; others had Google forms with questions about the weekly work to answer or weekly quizzes to complete.

However, teachers appeared proactive in following up with children who “went missing”:

“Challenges were probably that because we were all over the content and the delivery of the content, it gave me a fairly solid amount of time to be able to chase up any kids that weren’t engaged. We’re doing that through parent and student. And sometimes there were just portions of time where kids went missing. That was probably the biggest

challenge. And then when you eventually got them on and understanding, they would explain that they didn't understand what they needed to do"

"And if they didn't engage it was a prompt, it was okay.....are you okay? Is everything going well? I've notice that you haven't done something. If it was a week, I wasn't too concerned. But if it went for two weeks, it was an individual follow up. Most of the time it was yeah, sorry I forgot to do last week, but I'm on top of it"

From the students' perspective, again, a mix of both engagement and disengagement came through the focus groups. Some students identified that the remote learning style suited them, and they were more engaged in the material than what they would have been in class. Many commented on the ability to stop videos, write notes, process information, then keep going. They could return to the video if they needed when completing work or assessments. Others felt the freedom hindered their ability to get motivated to complete the work or they completed it all at once so they could have the rest of the week off.

For some, the synchronous meetings were not a good use of their time, they felt there wasn't a lot of direction in the sessions beyond simply asking how everyone was doing:

"I thought the Zoom meetings were a bit of a waste of time, some of the time I thought the pre-recorded videos were much easier to manage"

"They were like, does anyone need help and then you were sitting there for half an hour without anyone saying anything"

However, there were only a few students who commented on issues with internet access whilst in these synchronous meetings, so for those in the focus groups, access was not a big factor in being able to engage with online material.

Other students commented on different materials they were provided and that they often didn't receive feedback and so sometimes they didn't bother submitting the work.

"I remember someone who used to be in P.E and the teacher would give them workouts to do, and they didn't check up or anything, so it was just like here is a workout and no one else would do them, because they weren't checking in or anything. So, it was like have these workouts, but you need to do but we are not going to check that you've done them. We'll assume you've done them"

"they just didn't do presentations because they thought it was too difficult"

"For (subject) we had a paper booklet and then they would say just do this page and this page, and I'm like, well how will they know if I do it? So, I just didn't do it... They were meant to check it, but my teacher never did"

A few students commented on having to create a presentation or something similar for submission:

“I did that for outdoor too, assigned it as a video, like you videoed yourself as a PowerPoint, but that was just like our assignment and we did it as a presentation and we handed it in, rather than doing a presentation in class”

They noted that much of the work was to respond and interact with Google docs that were uploaded into Google classroom.

Across the two focus groups students noted that they felt they had more free time to switch off or go outside and exercise more regularly than what they normally would if they were attending class.

When students returned to school, there was a sense of variability in how teachers modified, or not, their teaching practices with regards to digital pedagogies. They indicated that many teachers returned straight back into “normal” face-to-face teaching, others continuing to use the digital resources for their teaching:

I remember being a weird mix on somethings, straight back face to face and other teachers, I remember, were like here is your work, the class flexed but you had to complete work for the end of the week.

It went back to normal pretty fast. The [subject] was a bit affected but after that it went straight back to face to face stuff.

I don't remember them like doing stuff online after we went back.

Learning wasn't online, like assignments were still due the same way, they were all through the classrooms, all the assessments were online. It was before as well.

These perspectives align with the teachers’ responses regarding their pedagogies upon return to school.

The move to COVID-19 remote learning in 2020 was difficult for all involved in education, from systems, teachers, parents, and students. In the ACT, the Education Directorate was uniquely positioned to respond quickly to the challenge as professional learning around digital pedagogies as digital infrastructure and hardware had already begun to be rolled out. This report highlights some of the successes and challenges faced by teachers and students at the time and how that impacted on their teaching and learning during 2020.

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Appendix A. Financial report

Appendix B Interview protocols

Teacher one-on-one semi-structured interview protocols

The school-based teachers involved in the project will conduct the interviews with their colleagues. Interview training will be provided by the research academics.

Introduction

Possible transcript:

Hi xxx,

Thank you for your time today and for agreeing to take part in this interview. It should take about 40 minutes.

As you may be aware, the school is partnering with UC in a research project that is looking at the factors influencing, and the effects of, digital pedagogies in the ACT during the COVID-19 pandemic.

While undertaking this interview:

- Your name will not be used, we will use a pseudonym or alias when reporting your interview data back.
- Your interview will be audio recorded and transcribed.
- Anything you say will only be used in relation to this research project and will not be shared further than the research team and in the reporting of the findings of the project.

The aim of the interview is to gain a greater understanding how the change in teaching from the face-to-face classroom environment to the online, remote learning environment impacted on your own pedagogy and use of digital technologies with the discipline area you teach.

Do you have any questions?

(answer any questions to the best of their ability or indicate that they will check with the UC researchers)

Are you happy to proceed with the interview? (if yes, then move onto Interview questions; if no, then thank them for their time and finish interview).

Interview

(start audio recording)

1. What discipline area do you teach?
2. How long have you been teaching at this school?

When I ask about digital resources, I mean the Chromebooks and the Google for education platform and any other digital resources that you had at your disposal (online videos, references etc).

These questions relate to your teaching practices prior to the pandemic.

3. Prior to this year, what was your view on the use of digital resources in your teaching? (If participant is unsure, the following could be provided for prompt - For example, along a continuum of “I do not see the benefit of using technology in teaching and avoid using it”, through to “ I am offering students expanded, creative learning opportunities and making content more relevant and accessible” where do you see yourself?)
4. Again, prior to this year, can you describe how you used digital resources in your “normal” teaching practice?
 - a. Was this type of practice part of school policy or just how you taught?
5. Can you describe the level of engagement that students had with the digital resources whilst in your class or for your subject?

These questions relate to your teaching practices when the pandemic hit and you were instructed to teach online/remotely.

6. How did you feel when learning went online/remote?
7. How did you structure your weeks? Did you have a blend of synchronous and asynchronous learning opportunities? How often did you meet virtually face-to-face?
8. Did the scope or plan for what you were teaching change? If so, in what ways?
9. Can you describe how you were using digital resources during the online/remote teaching?
10. What were your biggest successes and challenges during this time?

These questions relate to how the students engaged with the digital resources during the online/remote learning.

11. How did the students engage with the digital resources during this time?
12. Was there noticeable change in student engagement during online/remote learning?
13. What sort of monitoring techniques were available to you to gauge whether the students were undertaking the work?
14. During your face-to-face online meeting times, were there issues with connections dropping out with video and audio?
15. What did you see as the biggest successes and challenges for students during this time?
16. Were there equity and access issues across your student group that you noticed?

These questions relate to general school/directorate approaches to the transition to online/remote teaching.

17. Do you feel that you received enough training in optimising the digital resources at your disposal?
18. Did you have a mentor or colleague you could work with if you got stuck with any of the digital resources?
19. Did the Learning Management System (Google?) provide the resources and structure you needed to work effectively whilst remote teaching?
20. Were there any professional development sessions or other experiences that assisted or prepared you for the online/remote teaching?

These questions relate to your teaching practices after returning to the classroom environment.

1. Have you continued to use the digital resources after returning to the classroom? If so, in what ways?

2. Do you use the same or different digital resources since returning to the classroom?
3. If you compare to this time last year and now, do you think your teaching practices with digital resources have changed? If so, how?
4. Has your student engagement changed since returning to the classroom?
5. Is there specific professional development you would like in future regarding using digital resources?
6. Is there specific professional development you would have liked to have had regarding using digital resources prior to the remote teaching period?

Student focus group protocols

A selection of students across all grade levels at the school will be chosen to undertake a focus group. Up to 10 students will be involved at each school. Participants for the focus groups will be selected by the partner teachers at each school. Consent forms will be sent home for parents/carers to sign.

Possible transcript or introduction

Hi there, I am xx and this is xxx from the University of Canberra. We have asked you here today to chat about your experiences with online/remote learning when the schools were shut down. Some of your teachers and researchers from UC are undertaking a project that considers how the teachers and students engaged in online or remote learning. We wanted to understand from the students' perspectives some of the issues or challenges associated with the period of time you were learning at home and also chat about some of the positives that may have come out of it. We need your input and want you to share your honest and open thoughts with us.

Your parents/carers have signed a consent form for you to participate. Now that you have heard what we are going to be talking about, do you all assent or agree to participate in this group discussion?

(If all students agree, start with the engagement question. If any students do not agree, thank them for their time and ask them to return to their normal class)

Some basic rules apply when we conduct these group discussions. These are what we call ground rules.

GROUND RULES

1. **WE WANT YOU TO DO THE TALKING.** We would like everyone to participate. I may call on you if I haven't heard from you in a while.
2. **THERE ARE NO RIGHT OR WRONG ANSWERS** Every person's experiences and opinions are important. Speak up whether you agree or disagree. We want to hear a wide range of opinions.
3. **WHAT IS SAID IN THIS ROOM STAYS HERE** We want folks to feel comfortable sharing when sensitive issues come up.
4. **WE WILL BE AUDIO RECORDING THE GROUP** We want to capture everything you have to say. We don't identify anyone by name in our report. You will remain anonymous.

Focus Group Questions

(start audio recording)

Icebreaker question: When we are allowed to travel again and if you had a limitless budget, where would you go on vacation?

Engagement questions: introduce participants to and make them comfortable with the topic of discussion

- How did you feel when you learnt that you didn't have to physically attend the school when the pandemic broke?
- What did you think of the idea of learning from home via online/remote learning?

Exploration questions: get to the meat of the discussion

- Describe what learning was for you when you were learning at home. For example, what did a typical school day look like?
- Did you enjoy learning at home?
- How did the teachers engage/correspond with you?
- Did you have any issues with internet connection or download/upload speeds?
- What were the best aspects of your learning during this time?
- How would you describe your engagement levels with the online learning materials?
- Do you think your teachers use the online and digital resources as much now that you are back in the classroom?

Exit question: check to see if anything was missed in the discussion

- Is there anything else you would like to say about your experiences of learning from home during the shutdown?

Moderator prompt questions

"Can you talk about that more?"

"Help me understand what you mean"

"Can you give an example?"

Moderator tips

The moderator must tactfully deal with challenging participants. Here are some appropriate strategies:

- Self-appointed experts: "Thank you. What do other people think?"
- The dominator: "Let's have some other comments."
- The rambler: Stop eye contact; look at your watch; jump in at their inhale.
- The shy participant: Make eye contact; call on them; smile at them.