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RESEARCH CENTRE

**TECHMB** 

# Digital Policy, Infrastructure, Procedures and Practices of Select Rural and Northern Manitoba School Divisions

FINAL REPORT

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# TABLE OF CONTENTS

Summary.....	1
Introduction.....	3
Acknowledgements.....	3
The First Phase.....	4
The Second Phase.....	4
The School Divisions.....	5
Method.....	6
Results.....	10
Policy.....	11
Technology Infrastructure.....	14
Infrastructure.....	15
Web Presence & Social Media.....	16
COVID-19 Pandemic: Challenges & Solutions.....	18
Internet Inequity.....	19
Access to Devices.....	21
Access to Training and Technical Help.....	22
The Home Learning Environment.....	24
Teaching Face-to-Face.....	25
Innovative Uses of Digital Technology.....	26
Pre-COVID-19 Innovations.....	27
Innovations During COVID-19.....	28
Other Relevant Themes.....	29
Teacher Well-being.....	30
Student Mental Health.....	31
Digital Citizenship & Digital Literacy.....	31
Power.....	32
Positive Outcomes.....	33
Insights.....	34
Recommendations.....	35
References.....	36
Appendix A - Interview Questions.....	37

# SUMMARY

There are certain things we know about environments that foster innovation and growth. For example, we know that there is a link between subjective well-being (being healthy, well-rested, socially connected, safe, etc.) and increased creativity and innovation (Dolan & Metcalfe, 2012). The opposite is also true – increased stress typically decreases innovation (Leung et al., 2011). There are also certain things we know about digital technologies in rural communities and in education. Digital technologies can overcome geographic barriers that many rural and remote regions face and have the potential to enable equitable access to knowledge and learning. However, the Covid-19 pandemic flew in the face of what was known about both cultivating innovation and harnessing digital technologies. Within school divisions, the pandemic caused immense amounts of uncertainty and stress. It should not have been an environment conducive to technological innovation. However, educators are people who deeply care about their students, and when push came to shove during the pandemic, they innovated because there was no other choice. They instituted new programs, implemented new digital solutions, leveraged existing ones, and found ways to implement policies so that they supported student learning. They supported teachers, students, and families to learn new skills, often at a rapid pace. They made do. And coming out the other side, we have deep respect for their dedication, care, and creativity.

This report details the digital policies, infrastructure, and procedures that were in place before and during the Covid-19 pandemic. We found that smaller divisions, those with local control, and those that had pre-existing investments in technology and training were able to be more adaptable and responsive during the pandemic. We found that policies that were written with worst-case tech scenarios in mind were more limiting, while others allowed for a focus on positive behaviours and student learning. Finally, we found large inequities around digital access and use based on geography and other factors.

# SUMMARY

The timing of this research project was fortuitous. We started at the very beginning of the pandemic before we knew the extent of the changes the pandemic would bring. The research project was also started prior to a provincial policy announcement that would bring major changes to Manitoba's education system. The findings in this report serve to build understanding around adaptation and change in the face of crisis while also documenting a baseline of digital realities in school divisions as COVID-19 and provincial policies continue to impact Manitoba's education system. This report is valuable in light of both exploring what we learned about the value of digital investment for rural and remote schools and the value of local control for flexibility and responsiveness. This report details the digital realities in rural Manitoba school divisions, innovative digital practices both before and during the pandemic, and current challenges for digital practices. It is our hope that this report will offer critical insights that will inform the future of digital education in rural Manitoba.



# INTRODUCTION

As an extension of the report published by The Information and Communications Technology Council (ICTC) and Tech Manitoba (Kotak et al., 2021), Tech Manitoba provided funding for the Brandon University research team to examine digital policy, procedures, and practices in rural and northern school divisions in Manitoba. The Tech Manitoba and ICTC study examined digital equity and broadband access in Canada, and in Manitoba in particular. Distressingly, the study pointed out that Manitoba has one of the lowest broadband speeds in Canada (Kotak et al., 2021). The goals of this study were to examine the digital realities for rural education in Manitoba by exploring the current digital policies, programming, and practices in select rural and northern school divisions in Manitoba. With the dawn of the Covid-19 pandemic in early 2020, the study also allowed the team to investigate how the pandemic affected the digital realities of school divisions. The study involved two phases as described below.

## Acknowledgments

**The research team extends its heartfelt appreciation to our research assistants, Natasha Ofwono and Stephanie Spence, for their hard work collecting and analyzing data and to Christiane Ramsey for copy-editing this report. We also thank Tech MB for their support and funding for this project. Finally, a major thank you to the educational technology coordinators who gave their valuable time to take part in this project.**

An interim brief detailing the initial findings of the first phase of this project is available on the Brandon University CARES Research Centre website, <https://www.brandonu.ca/bu-cares/projects/publications/>

# THE **FIRST** PHASE

The first phase of this study involved a scan of divisional websites and social media presence of select rural and northern Manitoba School Divisions in order to gather (public) information about digital policies, infrastructure, procedures, and practices. This was done with the goal of building a 'digital profile' of rural and northern Manitoba School Divisions and providing local context for the second stage.

The goals of the first phase included:

- Developing a digital content analysis methodology for analysing digital policies, programming, and practices in school divisions.
- Developing an inventory of digital policies, programming, and practices in select school divisions in rural and northern Manitoba.
- Analyzing and providing insights into Manitoba's rural school divisions' digital policies, programming, and practices.

# THE **SECOND** PHASE

The second phase consisted of interviews with school division technology coordinators in order to delve deeper into the policies and practices identified in the first phase. Interviews also allowed the research team to explore some of the challenges, solutions, and innovations arising because of the Covid-19 pandemic and related school closures.

In particular, this study explored the following research questions:

- What are the realities in rural Manitoba School Divisions in terms of digital policy, procedures, infrastructure, and practices?
- What are some of the innovative digital practices, both before and during the Covid-19 pandemic, taking place in rural Manitoba School Divisions?
- What are some of the major challenges facing rural Manitoba School Divisions, both before and during the Covid-19 pandemic in terms of digital practices?

In practical terms, in the second phase of the study, the research team approached rural and northern Manitoba School Division superintendents to seek consent to approach their divisional educational technology coordinators/leaders to request an interview to discuss the digital policies, procedures, and practices in their division. Interviews were semi-structured and took place using video conferencing tools. Together with the data gathered in Phase One, the interviews helped to build a more comprehensive profile of digital policy, infrastructure, procedures, challenges, and practices of select rural and northern school divisions in the province. The study also highlighted innovative digital solutions being implemented in these divisions.

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# THE SCHOOL DIVISIONS



The study was limited to school divisions in the Southwest Manitoba and Northern areas of the province. While the Brandon School Division (BSD) is not considered rural, it was included as it is the location of Brandon University and is central to the University's mission. It was also thought that BSD could be a useful comparison to the other divisions in the study.

The area defined by Manitoba Education as 'Westman/Parkland' region was used to identify the divisions in the area (<https://www.edu.gov.mb.ca/k12/schools/schooldivmap.html>). We also looked at school divisions located in the North. The divisions targeted in the study are listed below.

## **Western Manitoba School Divisions (Parkland/Westman Region)**

Swan Valley  
Mountain View  
Turtle River  
Park West  
Rolling River  
Beautiful Plains  
Brandon  
Fort La Bosse  
Southwest Horizon  
Turtle Mountain

## **Northern Divisions**

Frontier SD  
Flin Flon  
Kelsey (The Pas)  
Mystery Lake (Thompson)

# METHOD

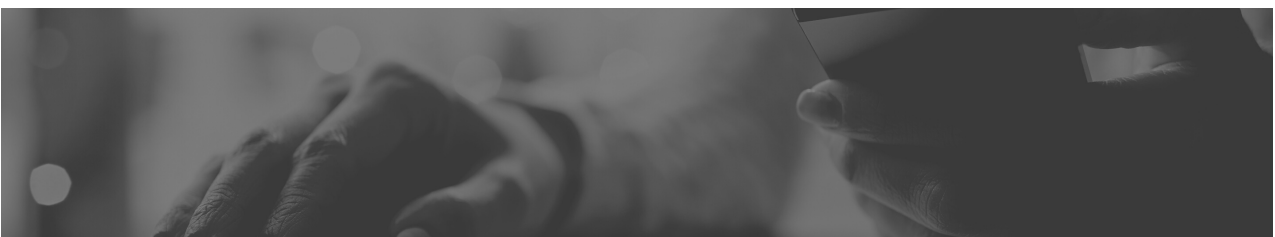
## PHASE ONE

Once the divisions were identified, a list of items to be included in the website/social media scan was created. These items were broken into three areas: Policy, Technology Infrastructure, and Social Media Presence. In addition, the research assistants tasked with the scan were asked to download relevant policies and make personal observations about the sites they examined. The items for the scan are listed in Table 1.

The key items were summarized, and a short summary of key points from the scan was created for each school division. A summary of the initial findings from the scan was presented in the interim brief, which can be downloaded at this link: <https://www.brandonu.ca/bu-cares/projects/publications/>.

## PHASE TWO

Superintendents at the target school divisions were contacted via email to obtain consent to approach the division educational technology coordinator/leader. Once this consent was obtained, the coordinators were invited to take part in a semi-structured interview. Questions were sent beforehand for informed consent and preparation. Interview sessions were arranged and conducted using video conferencing tools by a member of the research team, occasionally accompanied by another member of the team. Each interview took approximately one hour and was audio recorded. Of the divisions approached, seven divisions consented, and interviews were held in March and April 2021. It is interesting to note that at least two divisions reported not having anyone in the educational coordinator position, and several others had the coordinator doing “double duty,” most often teaching, due to challenges posed by the pandemic. When the interview was completed, the audio recordings were transcribed and sent to each participant for their review. Once the transcript was approved, they were analyzed for themes using pre-determined codes, but also with an eye to information not fitting into the a priori codes. In addition to the interview data, division policy was compared, and social media accounts once again scanned for the type of content shared.



# METHOD

## TABLE ONE

Items Considered in the Scan of each Division's Web Presence During Phase One

CATEGORY	ITEMS SCANNED
<p><b>POLICY</b></p>	<ul style="list-style-type: none"> <li>• ACCEPTABLE USE POLICY</li> <li>• SOCIAL MEDIA POLICY</li> <li>• FILTERING/BLOCKING</li> <li>• USE OF PERSONAL DEVICES</li> <li>• SPECIAL TECH PROGRAMS (E.G., BYOD, WI-FI HOTSPOTS, DEVICE LOANS)</li> </ul>
<p><b>TECHNOLOGY INFRASTRUCTURE</b></p>	<ul style="list-style-type: none"> <li>• # OF TECH COORDINATORS/LEADERS</li> <li>• # OF SUPPORT STAFF (TECHNICIANS)</li> <li>• LMS OR OTHER DIVISION-WIDE SOFTWARE (VIDEO CONFERENCE SOFTWARE, MICROSOFT, SEESAW, ETC.)</li> <li>• ADMIN SOFTWARE SYSTEM (MAPLEWOOD, POWERSCHOOL, ETC.)</li> <li>• HARDWARE (E.G., IPADS, CHROMEBOOKS, COMPUTERS FOR SCHOOLS, # OF DEVICES)</li> <li>• INTERNET CONNECTIONS</li> <li>• SUPPORT FOR TEACHERS (LINKS, HOW-TO GUIDES, ETC.)</li> </ul>
<p><b>SOCIAL MEDIA (DIVISION ACCOUNTS ONLY)</b></p>	<ul style="list-style-type: none"> <li>• DIVISION ACCOUNT (TWITTER, FACEBOOK, INSTAGRAM, YOUTUBE, OTHERS)</li> <li>• HOW THE ACCOUNT(S) IS/ARE USED AND WHAT KINDS OF INFORMATION IS SHARED</li> <li>• MENTIONS OF SPECIFIC COVID-19 SUPPORTS</li> <li>• EXAMPLES OF INNOVATIVE USES OF TECHNOLOGY</li> </ul>
<p><b>PERSONAL OBSERVATIONS</b></p>	<ul style="list-style-type: none"> <li>• NOTES OF ANYTHING INTERESTING/UNUSUAL THAT STOOD OUT ABOUT THE WEBSITES OR SOCIAL MEDIA USE (E.G., EASE OF ACCESS, INFORMATION NOTABLE BY ITS ABSENCE, ETC.)</li> </ul>

# METHOD

## TABLE TWO

Links to School Division Websites and Social Media Accounts

### Beautiful Plains School Division (Board Office in Neepawa)

Website: <https://www.beautifulplainssd.ca/>

Facebook: <https://www.facebook.com/beautifulplains/?fref=ts>

Twitter: <https://twitter.com/beautifulplains>

### Brandon School Division (Board Office in Brandon)

Website: <https://www.bsd.ca/>

Facebook: <https://www.facebook.com/BrandonSchoolDivision/>

Twitter: <https://twitter.com/BrandonMBSD>

Instagram: <https://www.instagram.com/brandonmbsd/>

LinkedIn: <https://www.linkedin.com/company/brandon-school-division/>

### Flin Flon School Division (Board Office in Flin Flon)

Website: <http://www.ffsd.mb.ca/>

Facebook: <https://www.facebook.com/Flin-Flon-School-Division-207827780150394/>

### Fort La Bosse School Division (Board Office in Virden)

Website: <http://www.flbsd.mb.ca/>

### Frontier School Division (Board Office in Winnipeg)

Website: <https://www.fsdnet.ca/>

Facebook: <https://www.facebook.com/FrontierSchoolDivision/>

Twitter: <https://twitter.com/FrontierSD>

YouTube: <https://www.youtube.com/channel/UCIeHQ8nqppvd1W0F8d0y3kg>



## TABLE TWO

### Links to School Division Websites and Social Media Accounts

#### Kelsey School Division (Board Office in The Pas)

Website: <https://kelseyschooldivision.ca>

#### Mountain View School Division (Board Office in Dauphin)

Website: <https://www.mvsd.ca/>

Facebook: <https://www.facebook.com/MVSDmb/>

Twitter: [https://twitter.com/MVSD\\_Schools/](https://twitter.com/MVSD_Schools/)

#### Mystery Lake School District (Board Office in Thompson)

Website: <https://www.mysterynet.mb.ca/>

Facebook: <https://www.facebook.com/sdml2355/>

#### Park West School Division (Board Office in Birtle)

Website: <https://www.pwsd.ca/>

Facebook: <https://www.facebook.com/ParkWestSchoolDivision/>

Twitter: <https://twitter.com/ParkWestSD>

Instagram: <https://www.instagram.com/parkwestsd/>

#### Rolling River School Division (Board Office in Minnedosa)

Website: <https://www.rrsd.mb.ca/>

Facebook: <https://www.facebook.com/Rolling-River-School-Division-569311203116159/>

Twitter: <https://twitter.com/RollingRiverSD>

#### Southwest Horizon School Division (Board Office in Souris)

Website: <http://www.shmb.ca/>

Twitter: <https://twitter.com/SWHorizonSD>

# RESULTS

## FROM BOTH PHASE ONE AND PHASE TWO

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**A SUMMARY OF PRELIMINARY FINDINGS FROM PHASE ONE, INCLUDING SPECIFIC SCHOOL DIVISION WEBSITE ADDRESSES AND SOCIAL MEDIA ACCOUNTS, CAN BE FOUND IN THE INTERIM BRIEF HERE: [HTTPS://WWW.BRANDONU.CA/BU-CARES/PROJECTS/PUBLICATIONS/](https://www.brandonu.ca/bu-cares/projects/publications/)**

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The findings resulting from both phases of the study will be shared in this final report. In the following sections, results will be shared according to the major divisions of the initial scan, that is: policy, infrastructure, and web presence, which will be followed by a discussion of Covid related challenges, innovations, and other themes that emerged from the data.



A hand is shown typing on a laptop keyboard. The background is a dark blue header bar with the word 'POLICY' in white, bold, uppercase letters. The laptop keyboard is visible in the lower left, and a hand is positioned over the keys. The overall image has a professional, educational feel.

# POLICY

All the school divisions/districts included in the study had posted policies regarding digital technology on the divisional website. In general, the policies are referred to as 'Acceptable Use Policies,' and although some are named differently, such as one titled 'Digital Citizenship Policy,' the nature of these policies was similar. Some of the commonalities include a preamble, often stating the value of digital technology in education, a statement pointing out that using digital technologies appropriately is the responsibility of various parties, including staff and students, a list of acceptable and/or unacceptable activities and behaviours, and a statement that the division has the right to inspect devices, accounts, or files that they 'own.' Although not evident in the policy of two divisions, signatures were generally required by both students and parents (if the student was under the age of 18). In an interview, one coordinator pointed out that signatures were not obtained. In several divisions, staff were also required to sign an acceptable use policy. Most of the policies were created or reviewed at some point in the last five years. A final point about these policies is that, from the interviews, there was often a process in place for reviewing the policy with students, in most cases, this fell to school personnel to do so.

In summary, each division has a policy dealing with the use of digital technology. There was a variation in the depth of each policy; however, they were similar in setting out appropriate use. Supplemental policies on personal devices, allocation of devices, and so on were found in several divisions. Such policy provides useful guidelines, yet they must be enacted in practice. From the interviews, an atmosphere of trust and responsibility, allowing for mistakes, and learning from them, is a common approach in practice.

# POLICY

It is interesting to note that six division policies specifically mentioned the term 'digital citizenship' and that only one referred directly to the Manitoba Education Literacy with ICT continuum (<https://www.edu.gov.mb.ca/k12/tech/lict/index.html>), although two others referred to the provincial requirement, but not by name.

According to recent figures, there are over 32.2 million active social media users in Canada (Underwood, 2021). Despite the wide use of these popular media, only eight of the divisions targeted had specific social media policy: either standalone policy (6) or as part of the acceptable use policy (2). Although a few of the coordinators pointed out that social media is addressed, not by name or platform, but by behaviour, in the policy. As one interviewee pointed out:

*We need policies that talk about behavior ... bullying is bullying; whether it's done over the Internet or done on the field or in the gym, it's still bullying. So, let's talk about the behavior being unacceptable and we'll deal with the medium on a case-by-case basis.*

Another coordinator pointed out "I think a lot of people are actually looking at social media and saying we have to build policy around it without realizing the policy was already there the entire time."

As well, several of the social media policies we found dealt with division, school, and teacher use and not with student use. In general, most divisions were neutral about social media use if it was used appropriately. One coordinator described it this way:

*We're very neutral, and in fact, if it's a good use, and we have a lot of examples within the school system where, you know, sports teams, etc., they have their own websites and Facebook accounts ... It's a good way to get information out.*

On the other hand, one interviewee did point out that teachers were only to use division-provided platforms for communicating with parents about school or student matters and another had a specific procedure for teachers to follow if they wanted to use social media for teaching. Another pointed out that if teachers used platforms like Facebook or Twitter, it could push them to be always online and "we want teachers to have a life," also adding that it also puts the communication out of their control. There were differences in the level of administrative control over social media use. For example, one interviewee said, "I have the opportunity to pop in to ensure that anything we're doing is in compliance," and another said, "Teachers are asked to use division platforms to communicate with parents and not social media." However, in a common theme, policy in this area was about behaviour and not platforms as such.

# POLICY


Other relevant policies regarding digital devices were found in seven divisions. These policies included the use of personal devices, allocation of computers, use of cell phones, and use of cameras. It should be noted that some of the topics of these policies were dealt with in the 'Acceptable Use Policies' of some of the other divisions. In an era of remote learning (especially due to Covid-19), one interviewee pointed out that policy was *"tweaked"* to make sure it addressed recording teachers during online sessions without their knowledge or permission. Each technology coordinator interviewed shared that students are allowed, and in some cases encouraged, to bring their own devices and are able to access school Wi-Fi.

Blocking or filtering content was rarely addressed in policy, although every division taking part in interviews had some sort of filtering procedure. Almost all divisions interviewed made use of Merlin for a blocking service. Two divisions stated that they had their own software for this purpose. Divisions also had a dashboard that allowed them to add or remove sites from the blocked lists as needed. At least one division blocked sites such as YouTube for bandwidth reasons. It is interesting to note that in most interviews, when discussing filtering and blocking, the concept of keeping access fairly wide open and relying on education when things went awry was predominant. One interviewee stated, *"It is kind of like a playground. If you're going to put kids out on a playground, two kids are going to fight. We're not going to ban playgrounds ... is it the playground's fault that those kids had to fight? No, it's not the playground's fault."* Another said simply, *"We believe in personal responsibility."*

With respect to policy, a general observation can be made that most, if not all, divisions have acceptable policies and procedures that are based on trust, honesty, and responsibility. Although some policy statements seem punitive, the philosophy described during our interview sessions was one of education, learning from mistakes, and making use of teachable moments. One coordinator described their policy as *"preventative to a great extent, and then we hope that they provide remediation ... we should be an educational institution, not a regulational institution."* Another coordinator stated, *"They're [students] responsible for those actions is what it comes down to, digital citizenship is number one. That's the most important thing, right? Learning how to use technology responsibly within the classroom and even outside of the classroom."* Yet another interviewee reinforced this concept explaining, *"Some kids are going to make mistakes, but for the most part, kids are going to learn how to use [technology]. They're going to make mistakes, and I'd rather they could do something inappropriate in grade eight or nine with a device and learn from that than they go to their first job or university and get caught for cheating."* In summary, the interviewees pointed out that issues related to misuse of digital technologies were rare with one interviewee stating, *"We do have, for the most part, really good compliance and really good behavior."* When infractions occurred, and they did on occasion, they were dealt with as a teachable moment.



# TECHNOLOGY INFRASTRUCTURE



While it was difficult to ascertain much depth about technology infrastructure from division websites, our interviews provided a wealth of information. In terms of IT personnel, there was variation across the divisions in our study. Many had IT and/or educational technology coordinator positions, although titles varied, and all had some technical support staff. During the Covid-19 pandemic, coordinators were often put back in the classroom doing double duty as a result of staffing shortages. Several divisions did not have anyone in the coordinator position at all. As will be described later, lack of funding was often cited as a cause for staffing issues.

Connectivity, a key piece of technology infrastructure, particularly in the Covid-19 era, varied widely across the divisions we interviewed. As noted earlier, Manitoba has some of the lowest connectivity speeds in all of Canada (Kotak et al., 2021). There was a significant range in the divisional responses about technology infrastructure: some divisions had fibre into every school, while others had communities without even cell phone service. One geographically large division had very uneven connectivity and connection speeds were described as “*pathetic*” in many locations in the division. Another participant noted that, “[*they*] have fibre everywhere. The only place we don’t have fibre is our Colony schools. We did a major upgrade to them in the fall ... to make it significantly better than it was.”

It is interesting to note that two participants mentioned the emerging Starlink service, with one stating that it is already making a big impact in their division, noting, “*And I have to tell you, it’s going to rock the province. It’s going to change everything.*” Starlink is a “high-speed, low latency broadband internet” developed by SpaceX (Starlink, 2021).

In summary, it seems that most schools have good connectivity; however, it is not equitable across the province or even within school divisions. The digital divide, in all its forms, was certainly something that the pandemic brought to the forefront (Camillo & Longo, 2020) as schools shifted to remote learning. This topic will be discussed again later in this report.



# INFRASTRUCTURE

In terms of software platforms, most divisions make use of the administration system Powerschool with a few opting for Maplewood. Other specialty administration packages included Clevr, a platform used for student services. In terms of productivity software, every division we interviewed used Microsoft Office 365 via a license through Merlin. The value of Merlin for software licensing and services such as filtering was evident in our interviews. Other divisions also supported software including Google Classroom and Seesaw, among a few others. It should be noted that although all divisions we interviewed had access to the Microsoft Suite, a few made use of Google Classroom as their platform of choice. In one division, software specific to literacy and numeracy was handled by their curriculum coordinator, while in several others, schools were given the discretion to subscribe to or purchase whatever suited their particular needs. One participant stated, *"We don't pay for the other kinds of specific school programs [that] the principal might choose to use."* In some situations, standardization of software across a division proved beneficial. For example, using one or two platforms for remote learning allowed easier technical assistance and consistency for parents and students. One coordinator explained that one platform, one preferred by most teachers, was utilized across the division, and, *"Parents were very thankful for that."* Yet, in other cases, allowing choice depending on specific needs was also important to allow, and this was the case in most divisions we interviewed.

Actual devices used in school divisions also showed much variation; everything from iPads, Chromebooks, laptops, and desktops were listed by participants. The local context is an important consideration, for example, two divisions did not use Chromebooks since they relied on good connectivity, which was an issue for many of their schools, or were *"too proprietary for us and they have some very major technical glitches."* In another division, Chromebooks were a major part of their inventory. Similar situations could be described for devices such as iPads, and so on; iPads were popular in several divisions and were generally used in grades K-5. Some divisions proclaimed that they were *"device agnostic"* and used whatever device best suited the context. Each division we talked to supplied teachers with a device - usually a laptop or desktop. Other popular pieces of hardware were projectors, interactive whiteboards/panels (e.g., Smartboards), and document cameras. Of all the divisions which took part in interviews, two were 1:1 in at least grades 5-12, and others were moving to that goal. It should be noted that those divisions that were 1:1 or close to it seemed to adapt to remote learning quickly, at least in that devices were readily available for students. For example, one interviewee stated, *"The reason why we didn't have challenges as big in technology is that we were already ready to go."* The reverse was also true - when divisions had not invested in technology prior to the pandemic, it took longer to adapt. One interviewee said, *"We didn't have an existing loan program or a one-to-one program...it was May by the time we figured it out."* The same investment pay-off could also be seen with professional development related to technology. For example, one interviewee said, *"I'm very thankful that in Sept-Dec we did that big push with the Office 365 training because that benefited us a lot."* And another stated, *"They were fortunate because some teachers had already been using Zoom and could adapt quickly. They've been fairly successful in the move to remote learning."*

A grayscale photograph of a person's hand typing on a laptop keyboard, positioned on the left side of the page. The background is a solid dark blue color.

# WEB PRESENCE & SOCIAL MEDIA

In this section, we will look at school division official websites and social media accounts. Links to each division's website and social media accounts can be found in Table 2. Every school division in the study had a website that included information for stakeholders including, administrative staff, policy and procedures, lists of schools and links to their websites, and other features. These websites varied in terms of ease and clarity of navigation; some included portals for parents and/or staff. In summary, the division websites provided an easily accessible way to obtain certain kinds of information or to find contact information.

Turning to social media presence, we found a range of platforms and how they were used. At this point, we are concerned only with official division accounts. Ahlquist (2014) stated, "*We are beyond the point of declaring that social media is new, or a fad, or will eventually fade away. Leaders do not have a choice in joining the online conversation...*" As was stated earlier, social media now reaches a large portion of the population and extends across all age groups (Underwood, 2021). Thus it seems that it could be used as an important means of communication for school divisions. Indeed, the literature is replete with studies and examples describing how social media is being used for communication, sharing, and collaboration. In Canada, the most popular social media platforms include YouTube, Facebook, Instagram, and Twitter, with YouTube and Facebook leading the pack. (Underwood, 2021).

# WEB PRESENCE & SOCIAL MEDIA


Because of the popularity and potential of social media, the research team searched and scanned the social media presence of each school division in the target group. It would seem that the school division administration sees the value of social media platforms; of the fourteen divisions examined in the study, only two did not have active social media accounts. Of the remainder, 10 used Facebook, eight used Twitter, only two used Instagram, two had YouTube channels, and one (Brandon) had a LinkedIn account that we could find. As expected, the largest division in terms of population (Brandon) had the largest number of followers on each platform. Although smaller in population, other divisions had good numbers of followers. Whether they were the same for each platform used by a division, one can only speculate; however, it would probably be safe to say that each platform had a slightly different audience.

A scan of various social media platforms was undertaken in mid-April 2021. In every case except two, postings were made on Facebook and Twitter accounts within the previous week and many on the day of the scan. Platforms such as YouTube were not used very often. Only one division had an active Instagram account. Based on general observations of research team members, it seems that Instagram is used more by schools and classroom teachers. The types of information shared varied from division to division, as did the frequency of posts. Three divisions had fifty or more posts since January 2021, while others ranged from 4 to 27 postings. The information shared included information about Covid-19, board meetings and special budget presentations, weather-related announcements, job postings, and other division news. It was interesting to note that a few divisions shared posts about the recent education review and Bill 64, and most were not neutral or supportive in tone. A few division accounts included some classroom and school activities, and one had many positive human-interest posts from locales across the division. In general, the accounts did not appear to have much interaction and were mainly used to push out information for the community, although some rare exceptions existed.

In summary, it would appear that social media is a valuable tool for school divisions and that most have taken the leap to use social media platforms for communication and to maintain a web presence with their stakeholders.



# COVID-19 PANDEMIC: CHALLENGES & SOLUTIONS



The interviews revealed a variety of common challenges and common solutions implemented by many divisions as a result of the Covid-19 pandemic, organized into the following themes:

- Internet Inequity
- Access to Devices
- Access to Training and Technical Help
- The Home Learning Environment
- Challenges in Teaching Face-to-Face

# INTERNET INEQUITY

If there was one thing that the pandemic made clear, it was the inequity in internet access across the province. All divisions, to varying extents, grappled with the issue of limited or non-existent access to the internet for families and students, especially in areas outside of major population centers. Problems that hampered or made remote learning difficult were related to a variety of factors such as data caps, no access to the internet due to lack of physical infrastructure, cost of internet, low bandwidth, and high latency problems, which led to poor or no capability of supporting meaningful at-home learning. This problem was not unique to Manitoba. A 2021 study by the American organization Consortium for School Networking found that digital inequity was one of the top concerns during the pandemic since students with a lack of access were at a huge disadvantage. Camillo and Longo (2020) summed up the challenge, stating:

*Family members struggled to keep up with work and school when forced to share space, computer devices, and Internet bandwidth. The shift of activities to the home caused parents and children, and even teachers, to take desperate actions, such as driving around their communities after dark searching for wireless hotspots so that they could complete their online tasks.*

Some families simply did not have the internet at home. If cell phone service was available in these areas, some divisions loaned families prepaid LTE sticks which allowed students to access the internet on their devices. Other families were saddled with data caps on their internet service, meaning that they either faced excessive bills to use internet data needed for streaming, accessing websites on the internet and online learning activities. One coordinator explained, *"Some of it is the cost of connectivity because if they only have dial-up, it's not good. If they have cell service ... then the data becomes an issue."* Again, in some of these cases, an LTE stick helped to solve the issue.

Some division coordinators reported that while families in their divisions had access to the internet, the connection could not handle multiple students (and sometimes parents as well) attempting to stream video or use the internet simultaneously. This caused all devices connected to the internet to slow down to the point where online tasks were impossible. One interviewee pointed this out, stating, *"Connectivity, that is still an issue at times ... because if you have even three devices ... the speeds are not good enough."* In these cases, the result was that online learning had to occur at different times for each child, making synchronous learning difficult, even asynchronous learning becoming a challenge depending on the number of students in the household.

# INTERNET INEQUITY

Some communities and schools operated in areas where there simply was no internet or even cell phone service. In these areas, that situation made synchronous or asynchronous online learning unrealistic. One possible solution mentioned in two interviews was the service Starlink, which uses low orbit satellites to provide internet access to remote areas where physical infrastructure does not exist. Another solution implemented by several divisions was setting up Wi-fi hotspots in school parking lots. Students could drive up, access the internet to complete downloads of lessons or complete work, then drive home. A creative solution, however, not very feasible in winter weather or for those who lived a long distance from the school. One of our interviewees expanded on this problem,

*Regardless of what community you're in, we are still primarily rural. So, we have students that are traveling anywhere from 20 minutes to an hour and 20 minutes. So, you need obviously someone to drive you and then the freedom to be able to take that time to drive in and sit there to access what you need.*

One solution described in another interview was a particular case where the student would drive to an uncle's house where there was a connection to do their work. In some cases, the only solution to a lack of connectivity was to provide material on a memory stick or supply paper packages, which then necessitated a procedure for distribution. One, not ideal, but creative solution was described by an interviewee who also taught classes:

*I had my zoom classes; I was recording them. In one case the principal in the school would download my recordings onto a stick and then the mom, who was coming in to work herself anyway, would drop off and pick up the stick so that the kid was watching the videos after the fact, so to speak, asynchronously.*

In another division, lesson materials were pre-loaded onto laptops that were then picked up to take home. The coordinator explained:

*I think that we had some that were delivered where they came into the school, picked up laptops and went home with them, and were able to log into them, and there were assignments right there ready for them. We did everything; absolutely any idea at all was not a bad idea. If it was feasible, we employed just about anything that we could.*

From these examples, we can see the glaring problem of internet inequity and the creative ways divisions employed to try to deal with the issue, not always ideal. However, with limited resources, most divisions went to great lengths to support their students. This inequity is a definite concern to coordinators; one stated, "We worry about those few little anomalies around division where we were struggling because of connectivity." In some divisions, the inequities are much more widely spread.

**Internet inequity is clearly a problem that deserves a permanent and equitable solution for the future.**



# ACCESS TO DEVICES

Yet another challenge faced by students learning at home was having access to a computer or tablet. In order to facilitate remote learning, many schools resorted to loaning out school-based devices to students who suddenly had to learn from home. Some divisions used older devices that were closer to the end of their useful life cycle as loaners, partly out of necessity and lack of devices, but also to mitigate losing newer devices or risking damage to newer devices.

School divisions struggled at times with a lack of devices, as well as not having a loaner program, especially early in the pandemic in March 2020. In at least one division, the pivot to remote learning at the beginning of the pandemic was a huge challenge:

*[We] didn't have an existing loan program or a one-to-one program like some of the other divisions in Manitoba. So that was very new to us. And so, during that initial suspension of classes, we did not have something in place at the start. So, students were very much working with whatever they had.*

A few divisions, who were already at a 1:1 device to student ratio, had fewer issues in this regard. One interviewee, whose division supplied devices to all students in grades 5-12 stated, "When Covid hit, we were in pretty great shape for our 5-12s." This same school division was able to deploy devices to support students in colony schools, as well. By September 2020, divisions that did not have loaner programs in place had found acceptable procedures for loaning school devices or procuring other devices to loan to families and students who needed one. In addition, remote teaching necessitated the use of additional web cameras, document cameras, and microphones for teaching. Some divisions who placed orders for these devices faced both funding issues and logistical issues, such as long delivery and procurement times. Local school boards helped as much as they could. For example, one interviewee said, "The school board really believed in what we were doing, and they always found the money," and another coordinator pointed out how the local school board helped meet needs, stating:

*So, the challenge was supply and the challenge was money to buy the supply and making sure we could find that money. I know the board stuck their neck out a few times saying, OK, well, the students need this, we have to do it.*

A solution adopted by every division, especially for students who lacked devices or connectivity, was to make use of paper copies of materials for students, which in turn led to issues such as distribution and the time and energy to create the packages.

# ACCESS TO TRAINING AND TECHNICAL HELP

Remote teaching necessitated a sudden and drastic shift to online learning management systems that oftentimes teachers had little to no training on. With this rapid shift to remote learning, many teachers were left to their own devices in order to figure out how to use platforms such as Microsoft Teams, Onedrive, Zoom, or Google Classroom, let alone figure out online pedagogy. One coordinator remarked:

*There was a bit of a panic [to] requests at the beginning for a couple of days, a couple of weeks. Teachers were wondering how to do stuff, and then after that, it was more fine-tuning, just sort of tweaking things and making it better.*

Eventually, divisions were able to utilize various forms of support. However, adding to the challenge was that most of this support had to be done online, *"I think that right now, the support of teachers is 100 percent dependent on technology, and we have no other way of delivering it."* Some of the forms of teacher support included access to asynchronous online training from Microsoft or another provider, having a technician or other staff member who was familiar with various platforms to help train teachers. As an example, one coordinator stated:

*So, we have someone now who is Google certified, See-Saw Certified, it's not just an evangelist, but he's also a support mechanism. And he's teaching, he's training trainers so that it can actually be self-sustainable within each of our schools.*

# ACCESS TO TRAINING AND TECHNICAL HELP

Some divisions established methods to assist students and parents, including setting up technical helplines or having staff dedicated to solving technical issues. These technicians were able to adapt quickly and address local concerns in their own local contexts. While physical visits were often problematic, or not even possible, due to distances and travel restrictions, technicians and teachers were able to use video conferencing or phone calls to help diagnose and solve technical issues that arose. One coordinator described the challenge in helping students this way:

*It's really difficult to help someone with this kind of format, like on Zoom, when they don't know the first thing about how to log in ... they're looking and they don't know how to describe it to you, like the menus they're seeing. They have no idea, they don't even have the language to convey what the problem is. They know [they're] stuck and they can't even convey it. And then there's the parent who is maybe helping. Like, "you know what, I'm just as lost as my seven-year-old son. I also have no idea." That's been a huge roadblock.*

Despite the challenges, school divisions managed, to some degree or other, to provide assistance to the best of their abilities during a stressful time.

One thing that came across clearly in our interviews was how teachers rose to the occasion to learn how to use these tools for remote teaching. One coordinator shared, "...tell you what I'm watching, I'm watching teachers really establish themselves with the skills that they have. They're taking the training that they already had and now they're establishing it and making it a daily practice." Another stated, "Innovative-wise, the teachers themselves have reinvented what teaching is in some ways ... out of necessity." Yet another pointed out "It's pretty phenomenal how everybody's come along ... they learned everything in one year." Despite the many challenges, it seems that teachers stepped up and learned all they could to make remote learning and teaching work.

# THE HOME LEARNING ENVIRONMENT

One of the big challenges shared by both schools and parents is related to the home environment. Some parents noted that creating and maintaining a good working environment at home that is conducive to learning was more difficult than anticipated. Internet availability, speed, data caps, and access to devices are problems already detailed previously, but also other factors such as physical space, a quiet place to work, and proper supervision were important variables that deterred good learning environments.

In order to set up a home learning station, some families found that they did not have the actual physical space to set up laptops and an area to work and store materials. In cases where families had more than one student learning at home, this was even more difficult. For example, kitchen tables often had to double as desks in the day but needed to be cleared for eating in the evenings and then set up again for the following morning. This was described by one coordinator, *“Just about every young person lives in a household with siblings and their parents, and everybody's in lockdown. So, they don't have a space in the house that's quiet and conducive to learning, especially for a youngster.”* In addition to that space conducive to learning at home, is the problem of supervising young learners:

*And then supervision is a problem with remote learning ... imagine a kid who is like in grade three, there has to be an adult around to facilitate learning. So even though you have a teacher teaching using Teams or whatever you have, the whole process is still highly dependent on there being an adult [present with the child] who can help facilitate that learning.*

Further complicating remote learning are the logistics of having one or more people interacting via webcam as microphones pick up all the audio in a room, perhaps making synchronous participation more difficult or not feasible at all. This sort of *“noise pollution”* provided another layer of consideration and roadblocks in setting up a good home learning environment.

# TEACHING FACE-TO-FACE

Once in-school teaching and learning resumed, restrictions were designed to keep everyone safe, such as wearing masks, physical distancing, and frequent cleaning. One of the biggest challenges was created by the need for physical distancing. Most classrooms were simply not large enough to handle a full class of students. In many cases, classes were split over two rooms:

*We had to come up with ways for one teacher to be in two places at once, which in some cases they were in three places at once because some of those same teachers who had two classrooms had a few students at home as well.*


These situations required additional teachers or assistants in order for proper supervision to occur. To help mitigate this issue, some divisions set up cameras enabling the teacher to be seen in both classrooms. While this was an innovative technological solution, it was not an ideal situation. One coordinator described the scenario:

*So, they have a document camera on their desk, then half the class is maybe next door, maybe across the school, depending on where we are and what school it is, and they're teaching and then have a camera in the other classroom broadcasting back ... so kids can put their hand up and a teacher can see. So, one teacher is able to teach two rooms.*

In some cases, teachers were switching roles throughout the day, *"It was changing all the time. So, our use of technology definitely increased because we had teachers that were teaching remotely and face-to-face at different times throughout the day."* Although the challenges were immense, division personnel and teachers did, as was stated earlier in this report, rise to the occasion and did what they could to make the situation work, often with the use of technology. One of our interviewees described the effort of teachers, *"They went hard, I'm proud of our teachers, they were amazing, and they have been amazing, but ... it's not sustainable."* Another summed it up, saying, *"I think, across the province, it seems like all the divisions stepped up and everyone really pulled together to make it happen."* While these challenges were met head-on, it was also a cause of fatigue and an emotional cost for teachers, parents, and students, as will be discussed later.



# INNOVATIVE USES OF DIGITAL TECHNOLOGY



One of the things we wanted to examine was the use of digital technology, both before and during the pandemic. Innovation is difficult to define, so we left it to the participants to decide. Innovation was supported by a culture that encouraged it. For example, one interviewee shared that, *“When a teacher made a request, even if it was a little bizarre, we still would honor it. And if they wanted to go off on a tangent and try some new things, we would support them going to professional development in that area. And that attitude really did work because it really did create innovation among our teachers.”* But innovation was hampered by reduced budgets (provincially) when things had to be ‘streamlined.’ According to the literature, innovation is also hampered by excessive stress and poor mental health, which were both mentioned as challenges for teachers and administrators during the pandemic (Leung et al., 2011; Dolan & Metcalfe, 2012).

We will present the innovative uses of digital technology in two separate sections: Pre-Covid Innovations and Innovations During Covid-19.



# PRE-COVID-19 INNOVATIONS

When we asked about the use of digital technology in school divisions and for examples of innovative ideas, we often heard that, *"There are lots of pockets of innovation that happened. There are some teachers who are very steeped in that culture of trying new things and using tech."* Another person talked about technology use by teachers being located along a spectrum. In some other divisions and classrooms, technology use appears to be a seamless tool, *"They're using the device as a tool for whatever it is that they're needing to do"* and they are being used *"on a daily basis."* One of the interviewees stated:

*I think we've just lost track of how integrated it [technology] is until we lose it. Like the classroom teacher, if they don't have the Internet in their class or it fails for some reason it's a big problem because so many different aspects of what they do or how they teach are connected.*

This coordinator added, *"You certainly hear about it when the Wi-fi doesn't work!"* In another division, the uptake is sometimes less, but not always by choice; sometimes it is the fact that the internet connection is not stable or there is a fear of trying something new. *"It's OK to be afraid, but we have to approach those individuals differently to support them and to make them feel safe and to bring them up to a level of comfort and competency."* A few of the divisions we talked to had implemented 1:1 computing and incorporated it in innovative ways. We also noted that these divisions encountered fewer challenges when shifting to the remote learning situation.

In terms of innovative technology use, we were told about the use of VR technology, coding, drones, Minecraft, robotics, streaming events and connecting with other schools, even internationally, 3D printing and design, graphic design, Microsoft certification programs, collaborative projects using technology, creative uses of social media (e.g., TikTok videos), among other initiatives. While general technology use still often occurs in pockets, there are certainly many innovative uses taking place in rural and northern schools.

# INNOVATIONS DURING COVID-19

As the old saying goes, *"Necessity is the mother of innovation."* During the pandemic, many inequities were brought to the forefront. These have been detailed in this report. However, it is also necessary to point out that divisions responded to these inequities in innovative ways. Several creative ideas, such as Wi-Fi hotspots accessible in school parking lots and in the community, providing LTE sticks for internet connectivity, loaning devices, forming collaborations with other jurisdictions, and so on, have been described previously. With remote schooling, teachers learned quickly to make the best use of tools such as Teams, Zoom, SeeSaw, and others for teaching. Some teachers began recording lessons and instructions and bringing in guest speakers via video conferencing tools. As one interviewee stated, *"The teachers themselves have reinvented what teaching is in some ways,"* adding that this was *"out of necessity, because nothing will ever replace teaching and the power of a hug for a grade one kid."* Another coordinator added *"People were forced to learn things that ... would have been optional before. That's certainly a change."*


**In all of the interviews, the hope was that the innovations and skills realized during this emergency scenario would not be lost when the pandemic subsides.**

Unfortunately, Covid curtailed some of the innovative projects listed as pre-Covid, however, some creative uses did take place during this year of Covid. While it was difficult to make use of VR, for example, because of sanitation concerns, other endeavors did continue and prosper. As an example, one of the interviewees mentioned that *"The Minecraft club at our middle school has really taken off, especially since we're not able to offer other electives. It's been nice that they've been able to have more opportunities to kind of explore the E-Sport option,"* and another contributed, *"There's more willingness to bring presenters in virtually. No, it's not a new thing, but I think maybe there's more awareness that that's an actual viable option."*

To sum up, the pandemic certainly curtailed many innovative uses of technology; however, it did, as our participants often noted, force teachers to learn about and try things with technology that they had not done before.



# OTHER RELEVANT THEMES



There were several other commonalities across the interviews, which we have identified as other significant themes. These themes include:

- Teacher well-being
- Student mental health
- Relevance of digital citizenship and digital literacy skills
- Power
- Positive outcomes of the pandemic

# TEACHER WELL-BEING

There were many similarities across the interviews about the immense learning curve related to teaching and learning during a pandemic. One interviewee used the phrase *“teacher fatigue,”* while others pointed out the increased load on teachers, which was further exacerbated by a lack of digital access. For example, one said, *“Some of our rural kids and a couple of schools are heavier on this due to connectivity, which is hard on teachers.”* For divisions that could not hire additional help to create paper packages for remote learning in areas without internet access, teachers had to make paper materials and packages to go home for remote learning while also maintaining a “regular” remote classroom. This workload was viewed as *“a lot to bear.”* Kirk & Emmy-Ofwono (2021) found that teachers stretched to prepare materials in a wide variety of formats (paper, digital, video) and distribute them to a variety of locations (parent and student email, Google Classroom, and as a package for pick up at the school) with the intention of creating ubiquitous learning opportunities for their students. Furthermore, the authors stated that many teachers attempted to make themselves even more available for student support, with one teacher explaining that teachers had embraced the idea that they could provide immediate support with a quick face-to-face Zoom session or by offering students help via text message (Kirk & Emmy-Ofwono, 2021).

In some cases, teacher workload increased greatly with the expectation of teaching students who were in the classroom while others were present online. Many divisions faced staffing shortages due to spacing requirements and restrictions. There were not always enough substitute teachers to cover teacher sick days in some cases. In other cases, substitutes, especially in more rural or smaller divisions, were not available to work. This was succinctly stated by one interviewee, who said, *“We had to come up with a way for teachers to be in two places at once.”*

A related issue was ensuring staff safety, with one coordinator pointing out that aspect as a major challenge. For example, one interviewee said, *“That was the biggest challenge, making sure that every decision you made from tech to education had safety in front and center.”* This coincides with recent research about how educational leaders experienced negative physical and emotional well-being during the pandemic (Farrell, 2021). In a podcast interview, Farrell stated, *“Administrators were under an intense amount of stress because their decisions, both big and small, now had a direct relationship to people’s health”* (Kirk et. al., 2020, 1:32). One of the ICT coordinators summarized the challenges well. They said, *“The staffing has been one of the biggest challenges, and staffing safety, I would say, are the two biggest things.”* Although they recognized the immense challenges of safety concerns, increasing workloads, and the learning curve with new technology, all ICT coordinators interviewed praised teachers for their dedication and commitment.

# STUDENT MENTAL HEALTH

It was not only the mental health of teachers that ICT coordinators described. During the pandemic, awareness around the importance of the mental health of students came to the forefront. As one ICT coordinator said, *"The second biggest challenge has been delivering effective educational support or leadership. The biggest concern has been their health and welfare."* As the reality of long periods of isolation from friends, family, and regular school routines took hold, both school divisions and the province of Manitoba implemented a variety of mental health supports. The recent [Report of the Commission on K-12 Education](#) (Manness & MacKinnon, 2020) also stresses the importance and continuation of many mental health supports that were put in place during the COVID-19 pandemic in schools for both students and staff. The need for mental health supports is connected to the issue of technology access. For example, one interviewee stated, *"We've got a lot of kids that have got health issues, that have mental health issues, and now the only way we can get them support is the internet and the internet, just is not up to the task."*

# DIGITAL CITIZENSHIP & DIGITAL LITERACY

Manitoba education has long recognized the value of digital citizenship and digital literacy skills. These are specifically listed within the Manitoba education framework, Literacy with ICT (Manitoba Education, n.d.) as a specific learning outcome, yet are rarely (as of yet) assessed in any concrete way. The pandemic highlighted the necessity and relevance of digital literacy and citizenship, such as problem-solving for technology, using technology independently while learning at home, and understanding how to adopt new technologies. One interviewee described this well, by saying:

*For me that's highlighted the necessity of teaching kids digital citizenship skills...the twenty-first-century skills - these are the things that are in the workplace and the skills that are valuable to have, like knowing how to use all these different platforms; knowing how to quickly get information when you need it.*

# POWER

During Covid, divisions responded to technology needs in varying ways. Some remained teacher-driven and viewed their role as tech coordinators as supporting teachers to use whatever software they preferred. Others took a parent-centric role and surveyed parents about which platforms they preferred. In one division, they struck a separate technology committee.

As we sifted through the data, it became evident that the philosophical perspectives that undergirded the policy statements had significant implications for how decision-making regarding technology was processed. In some divisions, teachers had more control over things like which software they preferred, how to manage devices, filtering and blocking, etc. In places where control was kept local, divisions were able to roll out devices quickly and respond with agility in an online learning environment. The local school board was responsive to the context, including knowledge about barriers such as infrastructure and access, and viewed their job as one of supporting the decisions from the field and equipping through access to training or funding for infrastructure. At the other end of the spectrum, there were examples of the great distance between the teachers and those making the decisions. Sometimes this was further complicated because of large demographics, geography, complex policies, communication issues, or a lack of familiarity with existing structures. In these cases, it took longer for things to happen. For example, one interviewee said, *"It happened fast – the schools looked after it [device loans]."* Another said, *"Being a small division, we had things [devices that had been ordered] in schools within a week."* In another division, as examined in the section about responding to Covid, the division found it more difficult to supply devices because they had chosen not to move in the direction of shifting power and control through a 1:1 device program in the past.

# POSITIVE OUTCOMES

## Technology Use Increases

Most of the interviewees spoke about how the pandemic greatly increased the technological skills of their divisions. For example, one said, *"Staff skills have grown immensely over the year out of necessity,"* and another said it had *"fast-tracked"* their technology use, and another mentioned that their technology use was more *"widespread."*

## Consistency and Flexibility

Another positive outcome has been the adoption of remote learning when in-class learning was not possible. This was not only limited to the pandemic, but several interviewees mentioned the possibilities of using remote learning to avoid sick days or snow days in the future. This flexible learning was seen as a valuable outcome of the pandemic. For example, one interviewee said:

*We always had a certain portion of students who were not in our buildings, whether that was related to their involvement in extracurriculars, family schedule...we're also very rural-focused, and we are also related to many of the First Nations communities so we would have students gone for significant portions of time because they have to help their families with harvest or help with sustenance... Since we're now used to this delivery model, I think it's easier to provide a more consistent access to education.*

## New Partnerships

Many school divisions had leveraged technology to provide new ways of partnering and forming connections that would not have been possible in person. Whether this was providing polar tours, bringing in international guest speakers, increasing available offerings through technology, accessing professional development, or partnering with other school divisions inside and outside the province, these new collaborations were made possible through the widespread adoption of technology. One administrator called this a *"silver lining"* and pointed out that *"it doesn't matter where you are, who you are, you can connect with experts, you can connect with people, students, teachers, outside educators, outside resources, and Covid really proved that."*



# INSIGHTS

- All divisions in the study had digital policies, primarily acceptable use, some social media, some personal devices, and some digital citizenship. Most of these policies had been recently developed in the last five years.
- Most if not all divisions have digital policies and procedures that are based on trust, honesty, and responsibility – an atmosphere of trust and responsibility, allowing for mistakes, and learning from them is a common approach in practice.
- The presence of IT personnel varied by division - lack of funding was the reason some divisions did not have dedicated coordinators or IT staff.
- While most schools had good connectivity, access varied across divisions - from divisions with fibre in every school to divisions that had schools without even cell service.
- Devices in school varied by division depending on budget and infrastructure issues. A few divisions had well-developed 1:1 computing initiatives.
- Facebook and Twitter are the primary social media accounts for divisions and are the only platforms used regularly. Accounts are primarily passive, pushing out information rather than dynamic.
- During COVID, many IT personnel had to return to classrooms due to staffing shortages related to class size restrictions.
- COVID-19 highlighted the potential and importance of digital for rural and remote divisions especially. While remote is not preferred and cannot replace in-person, it can provide important options for delivering effective learning and can complement and enhance in-class learning and professional development.
- COVID-19 highlighted the inequities in school divisions – those with good connectivity and 1:1 ratio of devices adapted quicker and with less struggle to remote learning.
- Flexibility resulted in quicker reaction time in responding to COVID-19 and innovative delivery systems, tailored solutions, and even hacks at the school and classroom level. Local decision-making balanced the need for flexibility and choice against reasonable logistical constraints (purchasing, fixing) to get teachers and students online during remote learning.
- With the drawn-out and shifting challenges of COVID-19, teachers had to adapt to changing scenarios constantly. These challenges included teaching remotely, learning new technology and pedagogy, as well as restrictions in a face-to-face environment, which included teaching in multiple rooms simultaneously. In general, interviews indicated that teachers adapted and “*rose to the challenge.*”
- COVID-19 forced the rapid levelling-up of digital skills amongst teachers, staff, and students. The ability to operate, teach, and learn completely online, previously seen as unworkable, rapidly became the new reality for teachers and students alike.
- Digital innovation, pre-Covid-19, took place in “pockets” and included such topics as robotics, coding, drones, VR, collaborative projects, gaming (Minecraft), and more. Many of these innovations were curtailed during COVID-19, however, as noted in the previous point, the digital skills of teachers tended to level up.

# RECOMMENDATIONS

**The following areas were identified as places needing additional focus:**

- **Digital Equity in Manitoba Schools**
- **Retaining Digital Choice**
- **Leveling Up Digital Skills**

CREATE DIGITAL EQUITY in MB SCHOOLS – Now more than ever, we need to ensure that divisions and schools have sufficient digital infrastructure and HR resources that are equitable across the province. Covid both exposed and exacerbated inequities (technology on colonies, Northern communities, connectivity issues, and socio-economic barriers). We need to ensure that connectivity, devices, and staffing resources are invested in and supported. The specific needs will vary division by division, and this needs to be understood and appreciated - there is no singular solution.

DIGITAL EQUITY IS NEEDED NOW – Society had not addressed the digital challenges for all rural and remote regions pre-COVID, but the reality of the past 14 months and counting illustrates that we need to invest and build digital equity now. Infrastructure, digital devices, and HR solutions need to be supported and financed today for September 2021 rather than as a future outcome. As one coordinator said, *“Internet should be like a utility that everybody has for a nominal cost.”*

RETAIN DIGITAL CHOICE – It is a common and tempting approach to standardize across the province – however, similarly to the success of creating an atmosphere of trust and responsibility of digital use within schools, divisions have demonstrated that retaining their flexibility regarding devices, software, and digital policy rather than being mandated is an effective approach.

LEVELLING UP DIGITAL SKILLS – The success of the rapid transition to remote learning across the province showcases the digital potential of rural schools and divisions. To make the most effective use of digital technologies in rural and northern regions, it is essential to help teachers, staff and students continue leveling up their digital skills to enable the adoption of appropriate digital technologies.

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# APPENDIX A

## INTERVIEW QUESTIONS

1. Please tell us a little bit about your division. How many schools? Number of teachers? Students?
2. Please describe the tech structure in your division in terms of: A) Personnel - coordinator(s), leaders in schools, technicians, etc.; B) Infrastructure - connection speeds/type, types of devices (and numbers/ratios if known); C) Division purchased software? (LMS, admin systems, productivity, etc.)
3. Do you have an acceptable use policy? Can you briefly describe it? How does it play out in practice?
4. Does your division support social media use? What sorts of accounts do the division, schools and teachers use? Do you have any social media accounts that we should be looking at for this study?
5. What is the computer (device) to student ratio? What types of devices are utilized in the division?
6. Does the division (or schools) allow student's personal devices? (Please comment on mobiles, tablets, laptops, etc.)
7. Does the Division utilize filtering or blocking software? Please describe what types of sites are blocked?
8. Can you describe some of the innovative uses of digital technology in your division? (pre-Covid)
9. What kind of PD for ed tech does your division support or provide?
10. How would you describe the use of digital technology in the classrooms in your division?
11. Can (& will) you share any details of the division budget dedicated to technology? Has it changed during Covid?

### **During Covid**

1. Were paper (hard) based materials also made available? How was that accomplished?
2. What about Internet access for students and teachers, how was this dealt with?
3. What are some of the biggest challenges you (division) faced due to the pandemic?
4. How has Covid-19 affected the use of digital technology in your division? Any examples of technology related innovations because of Covid in your division?
5. Where do you envision the next 5 years of technology in your division, based on what you've seen pre-Covid and during Covid? What will be the barriers to seeing this vision realized?
6. Looking back, are there changes that have occurred because of Covid that you feel are positive and should be retained as we return to 'normal'?