

**21st-CENTURY LITERACIES:
INVESTIGATING TEACHER PLANNING AND PEDAGOGY IN UPPER
PRIMARY CLASSROOMS**

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This thesis is dedicated to my grandfather Jack Wharfe.

Abstract

Theories of Anstey and Bull (2006), Lankshear and Knobel (2006), Sandretto (2006), Janks (2009), and Cope and Kalantzis (2009) suggest that literacy instruction needs to be more in line with the literacy requirements of participation in today's society. However less is known about how 21st-century literacies are planned for and taught by teachers on a day-to-day basis in New Zealand primary schools. This study aimed to fill that gap by investigating 21st-century literacy planning and pedagogy of Year 5 to 8 New Zealand primary school teachers.

A qualitative study using an interpretivist framework was conducted to understand how Year 5 to 8 teachers plan for and teach 21st-century literacy literacies. The research consisted of a small-scale study of four teachers. The first phase of data collection comprised of semi-structured interviews while the second phase of data collection involved obtaining participants' literacy planning, including weekly and long-term planning, which was then analysed using a literacy framework synthesised from three prominent literacy frameworks (Coiro, 2020; Freebody & Luke, 1990; Green, 1997). This analysis was compared with participants' interview responses to give a clear indication of teachers' perceptions of 21st-century literacy and how they implemented these literacies in their classrooms.

Findings indicate that 21st-century literacy teaching and learning happened in pockets across the literacy programmes studies and while participants' attitude towards 21st-century literacy was positive and they could clearly see the purpose of it, integrating 21st-century literacies into classroom practice was not always manageable due to time, budget and infrastructure constraints as well as teacher knowledge and capability.

Implications of those findings are that educators need support to understand and plan for 21st-century literacies. The framework created during the analysis stage of the study goes some way to supporting educators to do this in order to hang the 'what' and 'how' of 21st-century literacies on, and to embed digital, critical and multiliteracies into everyday school literacy practices.

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Introduction

Background

Much research has been conducted in the field of 21st-century literacies. Some studies have separated their focus into different types of literacies, other research under the larger umbrella term of new literacies, coined by the New London Group (1996) in the nineties. Thirty years later, these literacies are still considered new. Anstey and Bull (2006) continued this work on multiliteracies calling for a change in pedagogy to allow students to interpret and communicate with the technology of today. Other researchers (Janks, 2009; Sandretto, 2006) suggest that new technology will require students to explore the hidden meanings within text, uncovering bias and author purpose and promoting social justice. If students are to play their part in tomorrow's society socially, culturally, and politically they are going to need the skills outlined above.

This study gathers all these new literacies: multiliteracies, digital literacy and critical literacy under the umbrella term 21st-century literacies, which is defined in the next section.

21st-century literacy defined

The term 21st-century literacies is used as an umbrella term for the types of literacy skills students need to learn to be able to participate in today's media-rich society. The three main literacies that make up 21st-century literacies are multiliteracies, digital literacy and critical literacy. Within these literacies teachers can find the skills to support students to be active participants in life and learning.

The definition of literacy needs to be expanded (New London Group, 1996) to include the fact that 21st-century communication is multimodal, incorporating traditional, digital, and online text types and is intrinsically linked to students' social and cultural lives (Garcia & Mirra, 2020; McDowall, 2010). For students to be active members of society, they need to be exposed to and

supported to develop skills to consume and create with these new text types and modes (Cope & Kalantzis, 2009).

This expanded, multiliterate definition of literacy will bring digital literacy into classrooms and to support students to cope with the digital world, digital literacy will be a necessity (Burnett & Merchant, 2019; Kereluik et al., 2013) and with this definition comes issues around power, perspectives, and bias. Students are already part of the digital world (Kress, 2010), and need assistance to develop the ability to deal with this digital world, enabling them to be reflective, critical consumers of text (Janks, 2009; Sandretto, 2006).

The need for a New Zealand context

McNaughton's (2020) white paper on the literacy landscape in New Zealand suggested changes for literacy teaching that complement this research. The report suggested a move to include critical reasoning, using a range of text types both digital and traditional and teaching with resources that are relevant to New Zealand learners. Research into critical literacy in New Zealand schools by Sandretto (2006) has helped more teachers come to grips with the demands of teaching critical literacy in New Zealand classrooms as well as supporting students to interact and critically reflect on the wide range of texts that are put in front of them. The Tātaiako document (Ministry of Education, 2010) suggests that teachers can use multiple literacies when teaching Māori students, making literacy education more equitable for all. Students surveyed by New Zealand's Ministry of Education (2020) responded that they mainly used digital devices for searching for information online. Each of these sources signal shifts in what might be considered literacy and literacy competence in 21st-century literacy. These shifts suggest that literacy practices in New Zealand are not and more research into how 21st-century literacies can be effectively taught in New Zealand is needed.

Aim of this research

This research aims to fill the need to investigate how 21st-century literacies is implemented into classroom practice by New Zealand teachers. The study focuses on the combination of core 21st-century literacies and investigates their use in New Zealand classrooms. It builds upon previous studies into new literacies and 21st-century literacy by interviewing Year 5 to 8 teachers and then analysing their literacy planning. Through this discussion and planning analysis it was intended to uncover how teachers perceive 21st-century literacy, how they plan for it to occur and to understand the barriers or challenges that teachers face when implementing these literacies in their classroom programmes.

Year 5 to 8 teachers were chosen as the focus participants of the study as this is the age when students are more exposed to a variety of text types, including digital and online texts, and where there is less focus on decoding and gaining meaning in print-based texts (Literacy learning progressions, 2007b, p. 12-13). This is also a time at school when more digital technology is being integrated into classroom programmes (CensusAtSchool, 2023).

Research question

The central question that guides this research is:

How do Year 5 to 8 teachers in New Zealand plan for and teach 21st-century literacies?

The following subsidiary questions will inform the central research questions:

- *What do the participants think 21st-century literacies are and do they think they are important?*
- *What 21st-century literacies do participants plan to use in their classroom?*
- *What barriers do participants perceive when attempting to plan and teach 21st-century literacies?*

Literature Review

This review investigates the theory related to 21st-century literacies in education, focussing on primary school-aged students, their teachers and then specifically literacy in New Zealand. This literature review consists of three parts:

1. An exploration of the current research around 21st-century literacies, clarifying the different types of literacies that make it up, and why they are important for students to learn.
2. An exploration of planning for 21st-century literacy.
3. A specific focus on New Zealand-based research around 21st-century literacies.

Part One - What are 21st-century literacies?

What is literacy?

The world has changed drastically in the 21st century, and with that, so has literacy. Literacy, which is defined by Collin's (2023) dictionary as "the quality or state of being literate, especially the ability to read and write," (para. 1) is no longer the only type of literacy needed to navigate the modern world which is becoming increasingly interconnected. People need to be proficient in multiple types of literacy to participate in society. Crucial to this participation is critical literacy, the ability to use reading and writing skills to access and analyse content, specifically to question the contexts and meanings of words, images, and texts.

The New Zealand Ministry of Education (2020a) defines literacy as "a foundational skill that enables access to further learning, develops important life skills, and allows people to fully engage in work and in their communities" (para. 10). In short, being literate is the ability to read, write, speak, and listen. These are major communication tools all of us use in our personal, schooling, and

professional lives. Kalantzis and Cope (2005) describe this traditional approach as a system of mass schooling that was designed to respond to the demands on industrial society and still endures in contemporary education systems and classrooms today.

Traditional literacy instructional tools include strategies like reading to students, guided and independent reading and writing. The framework for literacy acquisition provided by the Ministry of Education (2006) has three aspects: learning the code, making meaning, and thinking critically. Using this framework, students learn about words and sounds, understanding how written language works and learning strategies to make meaning with text, for example predicting what may happen next in a story, finding the main idea of a text, inference skills and how a variety of texts are structured. Texts in a traditional literacy classroom will include narratives, non-fiction examples, poems, and newspaper articles among others. With the rise of technology use and eLearning in schools and society, teachers are realising that texts can be more than traditional paper copies and are moving more and more to online sources. Ministry of Education (2006) advice to teachers mentions contemporary environments and encourages the use of multimodal text forms and state that it is useful for teachers to think in terms of multiliteracies as a dynamic, shifting set of literacy practices that shape learning and people, as social, thinking, and creative beings. However, most of the examples of text in the Ministry's advice are 'traditional' book and paper examples.

Recent studies in education have aimed to help teachers integrate technology into learning at school (Lakin & Hunt, 2011; Martinez and Schilling, 2010; Olivares Garita et al., 2019). Blending traditional methods with new technology can help motivate and engage students, who will be essentially using the same reading comprehension strategies through online and digital contexts (Coiro, 2011).

21st-century Learning in a Literacy Context

Scholarship focussed on 21st-century learning is dominated by the narrative of the Four Cs: Critical Thinking and Problem Solving, Communication, Collaboration, and Creativity and Innovation. These important skills are directly related to participating in society. The Four Cs are a popular framework that is used in schools and classrooms which emphasises higher cognitive strategies and integration of technology (Ondrashek, 2017). Also called ‘soft skills,’ these 21st-century learning skills are essential for students’ future lives and include learning skills alongside life and career skills and information, media, and technology skills (Battelle for Kids, 2022; Cooks et al., 2004; Thornhill-Miller, 2013). These skills will prepare students for a global society (National Education Association, 2010). The four C’s can be linked not just to literacy but all learning taking place at schools, complementing the literacy basics of reading, writing, and speaking. The National Education Association (2010) stated that “In the 21st century, citizenship requires levels of information and technological literacy that go far beyond the basic knowledge that was sufficient in the past.” These 21st-century skills can help students find success in the classroom and can empower students with skills to participate in a global society, in any number of contexts. For example, Saavedra and Opfer (2012) found that higher-order thinking skills like critical thinking and communication can help students to solve problems and apply learning to new contexts. These 21st-century learning skills can be applied to any curriculum area. This is a pedagogical shift from teacher driven to student-centred learning and teaching, as Rotherham and Willingham (2010) state, “Advocates of 21st-century skills favor student centered methods—for example, problem-based learning and project-based learning—that allow students to collaborate, work on authentic problems, and engage with the community” (p. 42).

Students today have access to smartphones, cameras, computers and more (Kress, 2010). Communication is constantly changing which means that students now need to develop a different set of skills to participate in society from fifty, even ten, years ago. Effective reading and writing practices in schools can connect the 21st-century skills of critical thinking, collaboration,

communication, and creativity with literacy skills like comprehension, decoding, and fluency. A literacy programme that includes 21st-century learning components with 21st-century literacies will help students be critical consumers and creators of information and equip them with the skills needed to participate in our ever-changing, global society. Simmons (2018) argues,

“As students develop their ability to write and read independently, their range of options to use e-learning tools broadens. They can engage in collaborative writing and explore reading and writing in many ways through an e-learning lens. At the same time, they need to develop digital information literacy strategies and an understanding of being a good digital citizen, supporting their effective use of digital media” (p. 6).

Today’s students need 21st-century literacy classrooms that use communication tools and strategies to support collaboration, problem-solving and critical thinking, where students are consumers and creators of text. To enable this new approach, teachers need new approaches to literacy pedagogy. Possible new approaches to literacy pedagogy are explored in the next section.

New approaches to literacy pedagogy

Engaging students with new approaches to literacy pedagogy is of utmost importance for the applicability of schooling for young people. The young people of today’s world are asked to be literate in many ways and from a young age need to learn to cope with massive amounts of information coming from media, social media, and television. We are a fifth of the way into the 21st Century and if educators are to give students access to the understanding, knowledge, and skills they need to participate fully in the social, cultural, political, and economic life of New Zealand and the wider world (Ministry of Education, 2007), we need to explicitly plan for and teach new literacies such as critical literacy, multiliteracy and digital literacy. Graves (2011) emphasizes the need for educators to incorporate contemporary technologies diverse texts and innovative strategies to effectively teach reading skills in a rapidly changing world.

Many scholars have argued that school-based reading and writing programmes need to reflect a multimodal, digital world in which future students will be expected to participate (e.g. Cope & Kalantzis, 2000). In today's world, youth are more and more asked to be literate in many ways and from a young age need to learn to cope with large amounts of information from a range of sources; online, media, social media, and television. To cope with this many schools have provided, or expected students to provide, digital devices, but there is a caution. An Organisation for Economic Co-operation and Development (2021) study into digital literacy skills reported, "providing access to digital technologies at school does not automatically lead to better results. The amount of time teachers spend using digital devices in teaching and learning activities is often negatively associated with reading performance" (p. 134). Therefore, it is of utmost importance that teachers help students become multiliterate, critical learners who love reading and writing across multiple modes suggesting pedagogy and practices will need to change to keep up with demand (Cordero et al., 2018; Mackenzie, 2015; Silvers et al., 2010).

Curriculum statements are implemented through the day to day teaching, delivered by educators. If educators are to give "students access to the understanding, knowledge, and skills they need to participate fully in the social, cultural, political, and economic life of New Zealand and the wider world" as the New Zealand curriculum states (Ministry of Education, 2007, p. 18), they need to explicitly plan for and teach 21st-century literacies such as critical literacy, multiliteracy and digital literacy.

Researchers have argued for a view of pedagogy in literacy as a way to create learners for the knowledge economy and to develop young people who are creative and self-motivated. Cope and Kalantzis (2009) state "that meaning making is an active, transformative process, and a pedagogy based on that recognition is more likely to open up viable life courses for a world of change and diversity" (p. 10). This reframing of the definition of literacy has a huge impact on how it should be taught in New Zealand Schools. Society needs citizens who are not only consumers of

information but who are connected and multiliterate. If this is what teachers want for students, literacy instruction needs to be focussed on competitiveness, interactivity and access (Dresang, 2008).

Technology is changing the way society communicates, with the advent of Web 2.0 and the rise of user-generated content students are consuming information from a wide range of sources. The way people get information is changing, literacy pedagogy needs to prepare students to cope with the onslaught of information they come across. Arguably then, new literacies are needed to engage in school life and society as a whole (Jenkins et al., 2006).

As the way students communicate changes, so should approaches to literacy pedagogy. The importance of these new approaches to literacy pedagogy is explored in the next section.

Why are 21st-century literacies important?

21st-century literacy skills are crucial for student success and therefore need to be taught in schools. McNaughton (2020) recommends that Year 4-8 students be taught critical reasoning, noting that critical literacy is not taught well (or at all) in New Zealand and that students need a high literacy diet consisting of traditional, digital, social, and cultural contexts including online platforms (McNaughton, 2020). Prensky (2001) reported 22 years ago that “today’s students are no longer the people our educational system was designed to teach” (p. 1). Our education system is not designed to respond to the needs of our global, digital age (Gardner, 2008) and communication in today’s world is ever-changing and teachers need to be able to prepare students to be multiliterate consumers and creators (Burnett & Merchant, 2019; Coiro, 2020). The way that we communicate has changed drastically since the New London Group’s (1996) seminal paper on multiliteracies and it continues to change. We need students to be multiliterate, to be able to interpret and use the communication technologies of today. We need to make sure that today’s classrooms are equipping students with the ability to play their part in society - socially, culturally, and politically (Anstey & Bull, 2006; Cazden et al., 1996; National Academy of Engineering, 2004).

In terms of technology and communication, students' personal lives and their school lives are often drastically different. Mnyanda and Mbelani's (2018) study found that learners' digital literacy skills are often far ahead of their teacher's and if teachers are to engage and motivate students, we need to bring 21st-century literacies into the classroom. Roswell and Walsh's (2011) longitudinal study found that schools run the risk of teaching and learning literacy skills in anachronistic frameworks, employing outdated teaching, and learning strategies that do not teach students the skills they need. Wright (2010) states, "The kinds of learning processes, contexts, literacies and media predicted by the New London Group (Cazden et al., 1996) are particularly important for e-Learning classrooms because they closely link to the kinds of co-constructive and socially mediated learning that technological tools appear to foster" (p. 37). There is a need to upskill teachers so that they can feel confident to teach these new literacy skills explicitly and systematically to students to equip them to succeed in the 21st century (New Media Consortium, 2005, Roswell & Walsh, 2011). Jukes and Schaaf (2018) summed it up when they wrote that "dealing with change isn't just a matter of educators being good at what we do; it's about what we do being relevant to the world outside of school and the present and future needs of our... learners. If education is going to survive...we're going to seriously and quickly up our game" (p. 28).

In the following sections, the three core 21st-century literacies; multiliteracies, digital literacy and critical literacy are defined and related to literacy education and New Zealand classrooms.

Multiliteracies

Multiliteracies education is an approach to learning that emphasises the importance of being literate in multiple mediums. Multiliteracies education draws from the recognition that there are the different ways that individuals interpret and interact with texts, including visual, verbal, and technological modes of communication. Multiliteracies educators seek to provide students with the

skills they need to meet the ever-changing demands of society, technology, and the environment. The New London Group's (1996) work on multiliteracies in the nineties spoke of expanding literacy to include a culturally and linguistically diverse society. Although access to the types of technology we have access to now has changed since then (Web 2.0, apps, mobile phones) the New London Group argued for the transformative power of technology to ensure social participation for all regardless of gender, culture or language as all students participate in multiple diverse social and cultural groups (Mills, 2006). Cope and Kalantzis (2009) reviewed the multiliteracies work of the New London group and found it still valid almost twenty years later. These authors stated that "literacy needs much more than the traditional basics of reading and writing the national language" (p. 170). They go on to discuss the pedagogical shift that needs to happen to allow literacy learning to become more productive, relevant, innovative, and creative.

Participation in society is reliant on the literacy skills of the population. Garcia and Mirra (2020) investigated the challenges of new technology and its affordances and consequences finding a scarcity of classroom-based research around 21st-century literacy. They assert that 21st-century literacy is built on the understanding that there are multiple literacies and that we cannot divorce them from the sociocultural practices in which they are developed and that students need critical literacy skills to think about the perspectives and power at play in the texts they read, whether traditional, technological or web based.

An important driver of multiliteracies is the digital age and prevalence of digital and online sources of information. These digital literacies are defined and explored in the next section.

Digital Literacies

Being digitally literate is an essential 21st-century skill that helps student learning by teaching students how to find, evaluate, use, and create digital content in meaningful ways (National Library of New Zealand, 2023). Education researchers like Kereluik et al. (2013) acknowledge that

“basic digital literacy skills are essential for both students and teachers” (p. 133). Digital literacy education includes teaching students how to acquire and critically evaluate online resources, content, and media. It gives students the skills to express and communicate ideas with others in different text forms and media, how to assemble and curate digital material and content and how to participate in digital communities effectively. Common Sense Media’s (2019) survey into digital literacy found that only 36% of teachers felt that classroom technology is effective and 60% felt that they needed more support when integrating digital technology in classroom programmes.

The digital world is now accessible to young children who may not have the critical skills to understand the hidden meaning and nuance of digital text, be it social media, online videos, articles and more. Burnett and Merchant (2019) argue that critical literacy and digital literacy play a part in helping students “to be confident in navigating this uncertain world, as well as to play their part in shaping it” (p. 263). Coiro’s (2020) research into online reading explores the idea of digital reading and the shifting technological landscape of literacy and discusses how more research into digital literacy needs to be done to inform assessment, research, practice, and policy. As educational practices become more digital, teachers will need a framework like Coiro’s (2020) heuristic to integrate digital technology and online resources more effectively into their literacy lessons.

Researchers argue for incorporating new literacies into the classroom but understand that this changes the very nature of literacy (Cope & Kalantzis, 2009; Kist, 2005; Mirra & Garcia, 2020). It has been argued that digital tools can break down the walls of the classroom and reposition teachers and learners as partners in the classroom (Burnett et al., 2006). The ubiquitous and destabilising nature of technology allows teaching and learning to happen anywhere and at any time. Students can learn by using a range of powerful, new technologies from computers, tablets and even cell phones to enhance the learning process. Students are already competent using these technologies (DiGiuseppe et al., 2013) so when digital technology is used, not only is learning more ubiquitous but

it is more interesting for students (Ibrahim, 2016), can immerse students in the learning process (Ryan et al., 2013) and can provide instant, real-time learning (Vishal et al., 2017).

CensusAtSchool NZ (2023) data shows that 60% of primary school children say there are no limits on their screen time out of school, with that jumping to 80% of teens. It is clear from these figures that the higher a student's age, the more access they have to digital technology, media, and the online world. Years 5 to 8 students are at a crucial period of their lives where they are being exposed to a complex literacy landscape outside of schools but are not being equipped with the skills to navigate it. Organising daily life, travelling, and talking to friends have all changed (Burnett & Merchant, 2019, Merchant, 2009). To bring digital literacies into the classroom, teachers will need to change their practice, as Merchant (2009) states, "Perhaps we have to accept that the factory model of education over which teachers had control is slipping and that educators have to reinvent themselves" (p.54).

As the world and schools become more digital, a pedagogy that allows students to critically analyse what they read is needed to ensure that students do not fall prey to misinformation and are able to make meaning of what they read on a deeper level. This can be taught through critical literacy and is defined in the next section.

Critical Literacies

Critical literacy is an essential component of 21st-century literacy that empowers students to shape society through critically connecting with text, to recognise biases and explore the social and cultural contexts in which the texts were written. Callison (2006) advocates for the use of critical literacies to encourage students to apply critical analysis of text to their own lives, resulting in meaning learning. This critical literacy learning is relevant and through an understanding of how texts are shaped and how they shape readers, students could eliminate the disadvantages they may face as a result of a lack of cultural capital (Sharp, 2012). Scholars have argued that literacy in the

21st century is much more than using and applying language rules (Lankshear & Knobel, 2006). By teaching students' critical literacy skills, we enable them to become confident members of society as well as competent readers and writers.

Janks (2009) discusses the importance of critical literacy in the 21st century to equip students with the skills to consider the variety of text types and modalities they come across through their personal life and while at school. She argues that "[all texts] entice us into their way of seeing and understanding the world – into their version of reality. Every text is just one set of perspectives on the world, a representation of it: language, together with other signs, works to construct reality" (p. 61). From this conception, critical literacy needs to be taught alongside digital literacy and multiliteracy as a way for students to engage with and unpack the practices, identities and networks that come with exploring digital, online, and multimodal texts because all texts are not neutral and are increasingly complex (Burnett & Merchant, 2019). Critical literacy then becomes the tool students use to interact with text, not just analysis but deep exploration of the power, bias, and relationships within. Teachers need to help students develop their critical skills and examine their assumptions as well as the ones in the texts they read, watch or view (IRA, 2009; Rowsell, 2006).

Luke and Freebody's (1990) work on their Four Resources model provides us with a way to match the theoretical framework of 21st-century literacies. This model is a framework for teachers to develop critically literate learners, by working within four areas: code breaker, meaning maker, text analyst and text user. Research into teaching critical literacy in New Zealand classrooms has been undertaken using the Four Resource model, highlighting the need for 21st-century literacy skills to be taught in New Zealand classrooms (Sandretto, 2013).

Through the influx of digital communication devices, daily life is constantly changing and because of this education is constantly changing. The environment teachers were raised in is different to the one that contemporary students are currently being raised in. The use of technology in schools raises challenging ethical and moral issues that critical literacy can help us navigate

(Newton, 2018). Students who lack critical literacy skills may not be able to distinguish between fact and fiction, real and fake news and this may lead them to be easily swayed by persuasive political or corporate interests.

21st Century Literacies: bringing it all together.

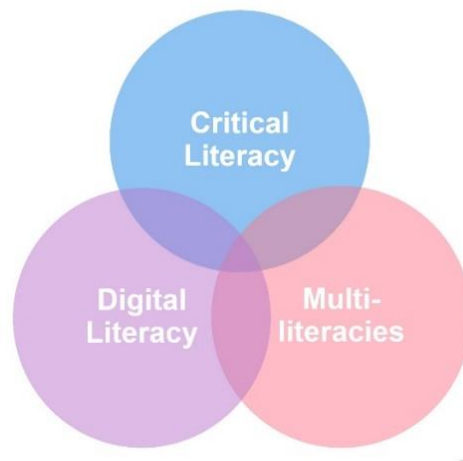
After defining digital literacy, critical literacy and multiliteracies separately, this next section brings all three together under the umbrella term of 21st-century literacies. Garcia and Mirra (2020) suggest that a definition of 21st-century literacy is needed to enable it to occur in classrooms. The New Media Consortium (2005) defines 21st-century literacies as “the set of abilities and skills where aural, visual, and digital literacy overlap. These include the ability to understand the power of images and sounds, to recognize and use that power, to manipulate and transform digital media, to distribute them pervasively, and to easily adapt them to new forms” (p. 8). While there are many other literacies that could be included as 21st-century literacies, for example, media, civic, visual and information literacy (Garcia & Mirra, 2020), the three literacies defined in the previous sections: digital, critical and multiliteracies, form the basis of and direction for this research around 21st-century literacies.

These literacies are overlapping and interwoven concepts that relate to each other depending on the situation. When students explore literacy in the digital world, they need critical literacy skills to evaluate the credibility of online information sources. A multiliteracy lesson will draw on aspects of digital literacy to leverage the potential for interconnection and interactivity in our global world (Garcia & Mirra, 2020). These literacies are the basis for growing students as socially active citizens. The overlapping area in the middle of all three circles provides a definition of 21st-century literacy. It shows what combined skills are needed to be a citizen today (New London Group, 1996). According to Luke and Freebody (2000), there is a need for “the flexible and sustainable mastery of a repertoire of practices with the texts of traditional and new

communications technologies via spoken language, print, and multimedia" (p. 446). Not only do students need the technical skills of using technology, but they need to be able to critically understand the purpose and bias behind different media while also growing as participants in a media-rich society (Jenkins, 2006).

Figure 1

Three key literacies that make up 21st-century literacy.



With the influx of technology into daily life, the challenge is how to make educational use of the myriad forms of creating, consuming, and communicating technology offers. 21st-century literacies like digital literacy, multiliteracies and critical literacy are a way forward to provide students with the skills necessary to be, as the New Zealand Curriculum states, “confident, connected, actively involved, and lifelong learners” (Ministry of Education, 2007). We are twenty-three years into the 21st century but our classrooms have not changed to equip students with the skills they need to participate now and in the future. Cope and Kalantzis (2000) made it clear when they wrote, “Literacy teaching and learning need to change because the world is changing” (p. 3) and being proficient at reading traditional, paper texts is not sufficient for the contemporary learner, researchers agree that educators need to find new directions or ways to engage critical literacies with multi-modalities and new technologies (Jenkins et al., 2008; Metiri Group, 2003; Sandretto & Tilson, 2015; Vasquez, 2018). This will enable the intersection of digital, critical and multiliteracies to occur.

Part Two: What does 21st-century Literacy look like in a classroom?

Traditional literacy skills, such as reading and writing remain essential, yet technological advancements have increased the diversity of skills that must be mastered to succeed today. The understanding and application of 21st-century literacies allow students to navigate the classroom and real-world problems with confidence, creativity, and curiosity. A classroom embracing 21st-century literacies will have a range of learning experiences that incorporate critical, digital and multiliteracies. It is important to note that 21st-century literacy learning is not an added curriculum area, rather it is the 'what' and 'how' of learning to read and write in the classroom. Today's learners must master a wide variety of literacies to be literate and this calls for teaching approaches that are experimental, collaborative, and creative. To thrive in the modern classroom and society, students must both understand and apply 21st-century literacies. The following sections review the existing literature to gather a synthesised view of what 21st-century literacies could look in a teaching and learning environment.

Multiliteracies in the Classroom

21st-century literacy is multimodal. A key feature of literacy in the 21st century is the range of modes and rich text types students need to read and write. A number of studies identify ways that students can engage with a variety of different modes, media, and types of communication from traditional paper text to digital presentation, website creation and digital storytelling. Lazareva and Cruz-Martínez's (2020) study into digital storytelling found that multimodal storytelling activities opened up creative ways for students to respond to text and prompts as well as supporting students' emotional and cognitive engagement. Silvers et al. (2010) assert that by allowing primary students to respond to personal inquiries using multimodal offers choice, brings in culture and teaches students 21st-century literacy skills such as using multiple modes for sharing information. Activities that cater to this might have students sharing new learning via online presentations or creating websites. Ivala

et al. (2013) researched digital multiliteracies in classrooms and found that students were more engaged and reflected more deeply on the content. Drewry's (2017) research into multimodal tasks in Year 6 classrooms indicated that by providing tasks that engage more than one semiotic system allowed them to navigate literacy within various contexts and allowed them to present their thoughts and learning in a variety of ways, boosting learning and engagement. A recurring theme in these studies and other multiliteracies research is that students should be able to both read critically and write no matter what the text type is (Cope & Kalantzis, 2000; Kist, 2005).

A second line of studies investigates the creation of multimodal texts as a response to their literacy learning. These studies suggest that five semiotic systems will be evident in a 21st-century literacy classroom. Towndrow and Pereira (2018) assert that by engaging the visual, spatial, gestural, audio, and linguistic parts of students' brains will help them to make meaning of the text and engage in deeper learning. The New London Group (1996) describe multimodality as the bringing together of at least two of the five semiotic systems. Kitson et al. (2007) state that teachers need to bring the semiotic systems into their literacy programmes to give students the opportunity to work with and make meaning of multimodal texts (Kitson et al., 2007). In practice, this means bringing multimodal activities like documentary filmmaking, using still and video text, cartoons and providing text choices to cultivate an array of literacies in diverse student populations to give them the skills and capacities to navigate the world outside of school. Khadka (2018) explored this notion in a case study that showed how students can move from consuming texts to become active producers of multimodal texts engaging in multiliteracy tasks that took them beyond the traditional definition of literacy.

Providing students with the skills and knowledge necessary helps them make their own choices about how to share new knowledge. A multiliteracies approach would see students creating eBooks, thinking about how words and images relate, or producing a Google Slides or PowerPoint presentation with a mixture of words, images, and sounds (Exley, 2007). With multimedia and technology use, learners can benefit from increased problem-solving and creativity, improved

communication, and collaboration, as well as having a greater sense of responsibility for their learning.

Multiliteracy learning in the classroom provides students with opportunities to learn and share their understanding in a variety of ways. Through activities like digital storytelling, comics, drama and by engaging the five semiotic systems, educators can bring 21st-century literacy into the classroom. Key to this multimodality is the use of digital technology, which is explored in the next section.

Digital Literacies in the Classroom

21st-century literacy embraces digital technology as a transformative power in the classroom, providing interconnectivity and interactivity between students and the world around them (Mirra & Garcia, 2020). Digital storytelling is a learning activity that sees students telling their own stories through digital media, be it a video, presentation or creating eBooks. Digital literacy is much more than presentation however and can help students build new learning related to their prior knowledge and experiences, enhancing learning, and engaging in higher-order thinking (McLellan, 2007; Simmons, 2018).

Simmons (2018) provides a range of ways for teachers to incorporate digital storytelling into their writing programme, allowing students more freedom to tell their stories using a range of digital tools. In a similar vein, Shelby-Caffey et al. (2014) describe in their study how digital storytelling can merge traditional literacy practices with emerging technology and new pedagogies to allow students deeper engagement with content and texts. Through the creation of a digital story, students utilise their reading and writing skills, engaging in multimodal learning. A 21st-century literacy classroom will equip students with the skills to locate and find information online using search engines, reading webpages for more understanding, activating their prior knowledge about a topic and to self-regulate their own learning experience (Coiro, 2010, Cordero et al.,

2018). McDowall and Hipkins (2019) found that the use of digital technologies in the classroom resulted in positive shifts in student engagement and achievement because of the authentic tasks that students have a vested interest in. Teachers are the key element in linking digital technologies with students and learning (OECD, 2016) and need to consider how to provide students with the skills needed to apply knowledge in authentic contexts (International Society for Technology in Education, 2007).

The use of technology in the classroom, often called eLearning, enables learning opportunities to be tailored to student's individual needs and interests, improving achievement and engagement (Ministry of Education, 2011). This can look differently across schools and classrooms and by using the SAMR model developed by Puentedura (2016) teachers can see how digital literacy can transform teaching and learning. Hamilton et al. (2016) critically reviewed the SAMR model and found the SAMR model focuses more the product not the process and suggest that educators use this model to help them shape learning and helps students find success through technology not success at using technology. At the substitution level, this can look like students consuming information using digital devices, publishing writing, or creating posters and presentations using apps or websites. Alongside these digital skills, teachers would role model and provide opportunities for students to learn about digital citizenship. By helping students to understand the principles of using technology responsibly, we can be sure they grow to be empowered citizens, and confident in using technology to participate in society (Jenkins, 2006).

By using digital technology teachers can transform how learning looks for students; from creating and publishing comic books to developing their own games to teach others, literacy can be redefined for 21st-century students (Ministry of Education, 2011; Puentedura, 2016).

Critical Literacy in the Classroom

Critical literacy in the primary school classroom is an important tool in the modern classroom that seeks to empower students to become informed, critical readers and writers who engage thoughtfully with texts from a variety of sources (New Media Consortium, 2005). In classrooms where critical literacy is embedded, teachers strive to create an environment in which students are not merely passive recipients of information, but instead, become involved in critically examining and assessing the messages conveyed to them through texts. Critical literacy is an essential tool to give students the skills to critically examine the texts they read and see the power and bias at play. No text is neutral. All texts impart the time, place, and culture in which they were written. Janks (2009) suggests that by equipping students to explore texts, and the hidden voices at play within the text teachers can promote social justice. Therefore, in terms of teaching resources, educators should look towards texts that encourage critical engagement: works of literature, news articles and documentaries that invite students to question the truthfulness of the information being presented. Teachers should start to look at the text as active rather than a static artefact (Carrington, 2008).

Text selection in a critical literate classroom is important. Not only do teachers need to select books at an appropriate reading level, but they need to lend themselves to critical examination. Sandretto's (2006) research into critical literacy teaching in New Zealand recommends the use of themes to guide text selection. Themes such as gender, stereotypes and culture provide opportunities for students to consider the issues inherent in these types of books. Jones' (2013) research found literacy programmes in early reading classrooms need to provide texts that enable students to see themselves in order to make critiques and judgements about texts. A Jordão and Fogaça (2012) project into English-language classrooms in Brazil found that critical literacy was needed to add cultural context to learning, fostering a sense of active citizenship among students.

As part of critical literacy learning, questioning techniques can be used to help guide students' critique of bias, power, and relationships in a text. An example of these, developed by Sandretto (2006), can be used to guide teachers and students when delving into the texts they encounter. These questions help uncover gaps and silences, points of view, power, and interest and more and as Sandretto (2006) found in her study, can be used to help students interact and reflect on the wide range of texts that are put in front of them. Examples of Sandretto's (2006) critical literacy questions include teachers prompts around the text like 'What genre does this text belong to?' and 'Who would be most likely to read this text?' to questions around power and interest and gaps and silences like 'Who benefits from this text?' and 'Whose views are excluded from this text?'

Critical literacy becomes important when viewed alongside the other 21st-century literacies mentioned above. Giving students the skills to engage with digital and multimodal texts in our rapidly changing world (Lankshear & Knobel, 2011), critical literacy is a fundamental aspect of education promoting the development of informed, critical readers and writers who thoughtfully engage with texts while recognising the inherent power and bias in each text. It is essential that teachers carefully select texts and themes for exploration in literacy lessons, along with activities and tasks that include digital and multimodal approaches. The Four Resources model (Freebody and Luke, 1990) offers valuable insight into how to guide students in comprehending, analysing, and responding to texts. This literacy model, along with others, are explored next in relation to traditional and 21st-century literacy learning.

Literacy Models

In response to the large quantity of reading and writing skills that students need to learn throughout their school years, a number of literacy models have been created to support educators navigate teaching these literacy skills to students. These models have been developed to show how literacies mentioned above are not extra things to add into everyday classroom practice, instead

they are the how of literacy instruction. A literacy model is a framework or approach that outlines the key components and strategies for promoting literacy development and improving reading and writing skills. As Vasquez (2018) states, “we need a framework for literacy teaching and learning that can withstand shifting conditions” (p. 1).

Effective Literacy Practice Literacy model from New Zealand

A New Zealand example of a literacy model can be found in the support materials published by New Zealand’s Ministry of Education (2006). It describes a framework for literacy acquisition, how teachers can help students become literate through three strategies: learning the code, making meaning, and thinking critically. Learning the code focuses on decoding words and other conventions of written language. Making meaning involves strategies for comprehension and understanding purposes of texts. Thinking critically relates to responding to the texts we read and how we need to think critically when reading or crafting text.

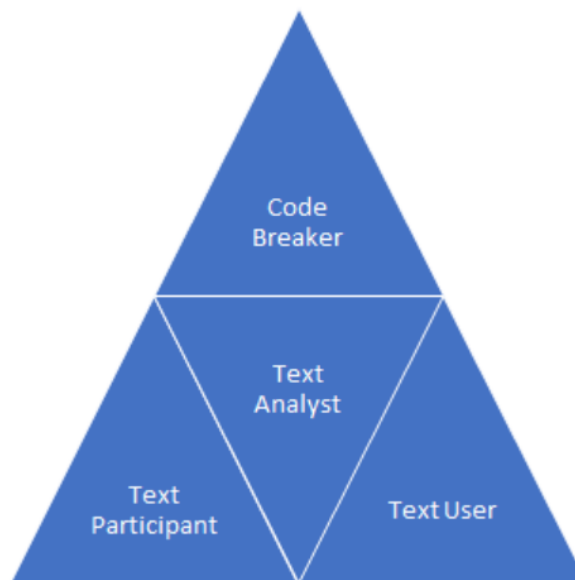
This model brings in aspects of 21st-century literacy but still maintains a traditional outlook on literacy instruction. Crucially, the meanings behind critical thinking and critical literacy are different and often confused with each other, however they have different goals and different purposes. Mulcahy (2016) discusses the need to distinguish the difference between them and acknowledges the need for literacy programmes to include critical literacy. The Effective Literacy Practice support materials may help students to read and write but do so without acknowledging digital communication or the necessity for students to be critically literate, therefore they do not fully equip students with the skills they need.

The Four Resources Model

Figure 2 shows the Four Resources model (Luke & Freebody, 1990) which provides teachers with another example of how literacy can be taught in the classroom. Each resource within the model helps learners to break open texts, make meaning from them and then critically analyse and respond. The following is a breakdown of each 'resource' from Luke and Freebody (1990).

Figure 2

The Four Resources Model



In the code-breaker resources, readers learn to use their knowledge of phonics, spelling, and grammar to decode written language. As students learn the code of reading, they will be better equipped to read and understand a range of text types whether traditional, digital, or multimodal. The meaning-maker resources helps readers draw on their background knowledge and experiences to construct meaning from texts. As text becomes more complex, students need to learn to make meaning from text regardless of text type, or mode. This leads into the next resource, text-user, where readers use a range of strategies to navigate and comprehend different types of texts, including understanding text structures and features. This is an important part of 21st-century

literacy where students need to move beyond consuming text, to become creators. The text-analyst resource teaches readers to evaluate texts for bias, credibility, and underlying values and assumptions. The text-analyst resource is critical literacy in action and provided students with the chance to examine of the text for the author's purpose, bias, and different points of view (Luke & Freebody, 1990; Luke & Freebody, 1999). Luke and Freebody's (1990) Four Resources model offers us insight into what students might be participating in in a 21st-century literacy classroom. Teaching students to read words, phonics, morphology and other word attack strategies, comprehension strategies like summarising, activating prior knowledge and inference. Students may also be involved with the examination of text for the author's purpose, bias, and different points of view. The four resources are not a hierarchy, but rather four ways to simultaneously relate to text (Freebody & Luke, 1990). The model embraces multimodality and teachers can use a wide variety of text to critically examine. From traditional text to movies, advertisements and more (Sandretto, 2012). Using these four aspects of the model, teachers help students to decode, comprehend, analyse, and respond to a text, examining the purpose and bias within texts as they do so (Luke & Freebody, 1990; Sandretto, 2006). Rush (2004) found, through classroom research, that planning literacy around the four resources model enabled students to improve their comprehension levels and supported critically thinking about text.

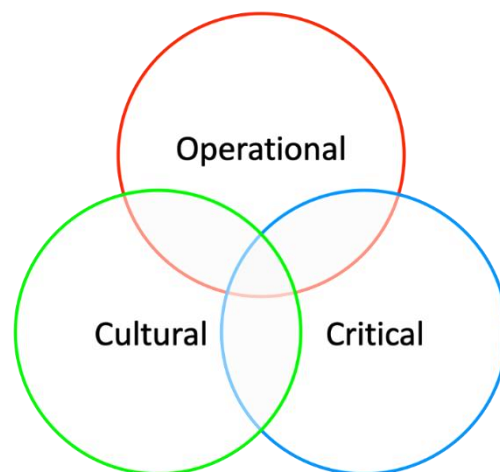
The four resources model addresses the 'how' of teaching critical literacy and multiliteracies, enabling teachers to incorporate 21st-century literacies into their classroom practice. There are many resources available for teachers to develop their literacy programmes using the Four Resources model, notably for New Zealand teachers, Sandretto and Tilson's (2015) study into critical multiliteracies across New Zealand primary school classrooms from Year 1 to 8. There is a possibility that the Four Resource model may be seen as a way to only teach critical literacy, or that it is a separate programme that needs to be fit in amongst an already crowded curriculum. More work may need to be done to help teachers integrate the Four Resources model into their literacy programmes.

Green's 3D Model of Literacy

Green's (1997) 3D model of literacy is a theory that describes literacy as a social practice, where the meaning and interpretation of written text are shaped by social and cultural contexts. The model emphasises the importance of understanding the social and cultural background of the reader and the writer. It also highlights the role of power relations in literacy practices and the need for critical analysis of texts (Green & Beavis, 2012). The core elements of 21st-century learning fit well within Green's 3D model of literacy. Students need to have an operational grasp of language across different contexts. The critical aspect of the model brings in the idea of critical literacy and analysis to explore bias and power within the text. Green's 3D model of literacy provides teachers with an idea of how literacy in the 21st century can be organised and taught, linking core literacy skills with cultural and critical competencies. It emphasises the importance of understanding literacy as a complex phenomenon affected by many factors, both social and individual (Green, 1997).

Figure 3

Green's 3D model of Literacy



This model contains the operational literacy that is included in other literacy models but adds a cultural aspect that some teachers may find difficult to incorporate into their teaching due to

unconscious bias or a lack of awareness of how to be culturally responsive (Bishop et al., 2009; Glimps & Ford, 2010).

Coiro's multifaceted heuristic of digital reading

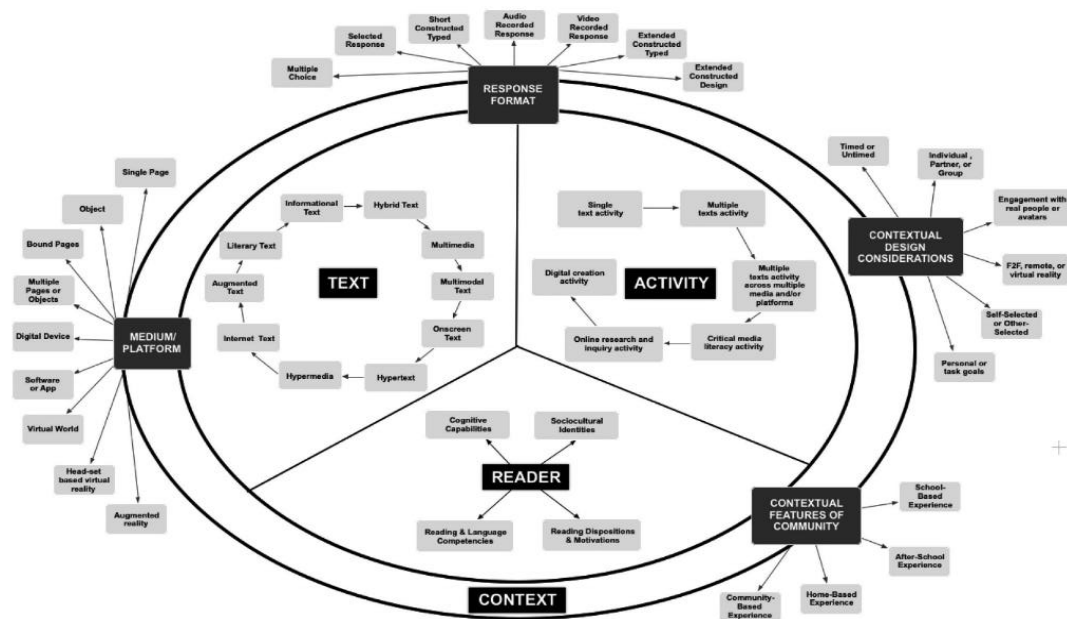
Coiro's multifaceted heuristic of digital reading is a framework that is used to guide the development of effective online reading comprehension instruction. It includes five key elements: activate prior knowledge, generate questions, search for answers, summarise information, and evaluate learning.

Coiro's (2020) multifaceted heuristic of digital reading shows the wide range of digital reading experiences that can be used within a 21st-century literacy lesson. The choices that teachers make for a reading lesson give us an idea of what 21st-century literacy can look like. What the students are reading, how they are reading it, what activity will they complete while reading, how they will respond to text... all this gives us an indication of what 21st-century literacy is and how it can be run in a classroom. Coiro's heuristic shows us explicitly the shifting literacy landscape in that students and teachers find themselves. As we can see in Figure 4, there are multiple forms of representation available to read and create. Therefore, teachers planning and teaching should reflect this (Coiro, 2020; Kist, 2000).

Online reading or reading through digital devices is becoming increasingly important for our, and our students, everyday lives. We need to be able to navigate and critically evaluate online sources to make informed choices. Figure 4 helps teachers to understand the complex nature of digital literacy and can help them to see the need for the integration of traditional literacy instruction with 21st-century literacies (Coiro, 2011).

Figure 4

Coiro's multifaceted heuristic of digital reading



This model highlights the multiple choices involved with incorporating online reading into literacy programmes but does little to explain exactly how it can work in a classroom setting. It does, however, tie neatly into the 21st-century literacies defined above, bringing multiliteracies together with digital literacy. A link to critical literacies would be needed to give students the ability to critique the online texts they read for bias and reliability.

Literacy models summary

These four literacy models show educators that literacy, especially 21st-century, literacy requires multiple components to support students to be literate. Students need to grasp the basics of language; operational literacy for reading and writing (Gadd & Thompson, 2006; Green & Beavis, 2012). This will also include comprehension strategies to help students gain a deeper understanding of what they read (Freebody & Luke, 1990; Gadd & Thompson, 2006). There also needs to be a

critical element where students analyse text, examine the author's purpose, and create their own multimodal texts while responding to what they are reading or viewing (Green & Beavis, 2012; Luke & Freebody, 1990).

Through these literacies and literacy models we can see that literacy is more than reading and writing, highlighting the different resources and skills necessary to be considered literate in the 21st century. On their own, these frameworks go some way to enabling 21st-century literacies in classrooms however a framework is needed that incorporates all of these models and literacies that supports teachers to teach 21st-century literacies. Alongside a clear framework would need to sit examples, resources, and assessments that enable teachers to easily implement 21st-century literacy into reading and writing lessons.

Effective 21st-century Literacy practices in upper primary classrooms

This section serves as a summary of the question posed at the beginning of part two: What does 21st-century Literacy look like in a classroom?

The three main 21st-century literacies have been defined, digital literacy, multiliteracy and critical literacy, as has their role within a classroom environment. Four literacy models that incorporate elements of 21st-century literacy practice were then unpacked. A synthesis of this exploration allows us to understand what practices we might see if we entered a classroom that embraced 21st-century literacy in its reading and writing programmes.

The main elements we would see in this type of classroom could be:

- The teaching of foundational skills for reading and writing
- The teaching of comprehension and meaning-making strategies
- Multimodal texts being used and created by teachers and students.

- Critical analysis of texts including examining the author's purpose, bias, and perspectives within a text
- Social and cultural perspectives explored within the texts being read or viewed by students.

A classroom that encompasses these skills and strategies will equip students with all they need to be literate, to communicate and succeed in our complex, ever-changing world.

Part 3: How do 21st Century Literacies relate to New Zealand Classrooms?

In this section, we look at how 21st-century literacies relate to New Zealand schools. Beginning with the New Zealand Curriculum and other Ministry of Education documents to understand where 21st-century literacies sit within the New Zealand education system and in New Zealand classroom practice.

Ministry of Education documents

The New Zealand Curriculum wants students to be confident, connected, and actively involved lifelong learners. Written fourteen years ago and seven years into the 21st century, this curriculum contains pertinent examples of 21st-century literacy learning. The Ministry of Education (2007) wants students to be “effective users of communication tools” and “participants in a range of life contexts,” which we can take to mean traditional, social, and digital contexts (p. 16).

In the Level 3 and 4 English curriculum Achievement Objectives, there are examples of students thinking critically about texts, identifying points of view, understanding that texts can position a reader and evaluating the reliability of texts (Ministry of Education, 2007). These directly relate to the facets of 21st-century literacy discussed above. The current New Zealand Curriculum has 21st-century literacy embedded throughout it, from digital to critical literacy, encompassing

multi-modal forms of text and communication. It is not just a recommendation; this is what teachers in New Zealand classrooms should be planning for and teaching.

Another key piece of documentation and research in literacy practice in New Zealand are the *Effective Literacy* books. Focussing on the Year 5 to 8 book gives us an insight into what the Ministry of Education values in literacy education, while also providing possible gaps. It is worth noting that this book was published in 2006 and this endorses a traditional version of reading comprehension, although it is positive to note that it does mention the need for students to begin to become literate with electronic media (Ministry of Education 2006; Sandretto & Tilson, 2017).

New Zealand Curriculum Refresh and Common Practice Model

The curriculum in New Zealand is currently being refreshed and contains several key themes and developments that include 21st-century literacies for the changing world. The new curriculum, Te Mātaiaho, is the 'what' and the 'how' is the Common Practice Model which contains a set of pedagogical approaches to change how teachers plan and teach literacy and numeracy in New Zealand classrooms. 21st-century literacies, critical literacy and multiliteracies, are mentioned explicitly (Ministry of Education, 2022) with specific mentions of the semiotic systems (visual, spatial, linguistic, gestural, and audio) and communication skills to teach students to make meaning and communicate in multimodal ways which would incorporate elements of digital literacy even though not explicitly stated, as seen in Figure 5 (Ministry of Education, 2023a; Ministry of Education, 2023b). These changes for New Zealand education signal that the Ministry of Education is looking towards 21st-century literacies to engage students in reading and writing and to create success for students' achievement in literacy.

Figure 5

Te Mātaiaho and the Common Practice Model

Te Mātaiaho	Pedagogical principle			
	Tautōhito urutau Adaptive practice			
	Essential pedagogies			
	Hononga ako Caring for learners and their learning Te piko o te mähuri Connecting learning to each learner Rangapū mana taurite Building power-sharing partnerships Kauneketanga Being urgent about progress Kauawhitanga Designing for inclusion			
	Progress steps		Progress outcomes	
	Literacy & communication	Maths	Literacy & communication	Maths
English (phase 1)	Mathematics and statistics (phases 1 & 2)	All learning areas (phases 2-5)	All learning areas (phases 2-5)	
Common Practice Model	Pedagogical approaches			
	Culturally responsive teaching Relationships with literacy, communication, and maths Rich interactions Explicit and intentional teaching			
	Approaches for literacy and communication		Approaches for maths	
	Critical literacy Active learning Multiliteracies Linguistic responsiveness		Critical maths Planned investigations Thinking and working mathematically	
	Pedagogical practices			
	Creating an inclusive learning environment Organising for learning Designing and enabling connected learning Prompting and questioning Reflecting on teaching and learning			
	Practices for literacy and communication		Practices for maths	
	Engaging with texts		Fostering relationships with maths Engaging in maths processes Using maths representations and language	

Digital Literacy in New Zealand

A New Zealand Centre for Educational Research (Bolstad, 2016) study into digital learning found that teachers find digital technologies positive in terms of engagement and attitude towards learning. This research also found that most digital technologies being used in New Zealand classrooms involved digital document production (publishing stories on Google Docs for example),

skill practice or internet research (Bolstad, 2016). While this is a good starting point, it shows us that digital literacy is an essential skill that may not currently be comprehensively taught in New Zealand primary schools.

A Price-Dennis and Smith (2015) study found that digital literacy could be used in the classroom to support inclusive literacy practices and help make the curriculum more accessible to students, linking learning goals with real-world platforms which they are already engaging with in their personal lives. Beech (2012) suggests that digital literacy, including multimodality, enables sharing, communicating and reflecting on learning tasks as well as providing real-world, authentic contexts and purposes for learning. Williamson (2010) suggests that digital text forms are no longer marginal or niche and the growing complexity of digital text forms available to students requires a new set of literacy skills.

However, there is “a lack of guidance for explicit teaching of literacy skills in digital contexts” (Ministry of Education, 2020, p. 8) in New Zealand schools. This is highlighted by the fact that 73% of Year 4 and 92% of Year 8 students reported that their devices were mostly being used to search for information (Ministry of Education, 2020). Searching for information using digital technology is a small part of digital literacy and this frequent use of technology does not equate to higher achievement (Ministry of Education, 2020). Digital technologies can have the power to increase collaboration, motivation and engagement with students and 21st-century literacies are a critical component of this learning (Bower et al., 2014; Kearney, et al., 2012; Wong, 2019).

Some challenges with implementing digital literacy in New Zealand schools are teachers' lack of pedagogical knowledge in the area and their lack of confidence in teaching with digital technology (New Zealand Technology Industry Association, 2016), and limited access to devices and software as a barrier to integration (Pauwels & Wong, 2019).

Critical Literacy in New Zealand

Sandretto's work provides the most clarity around how critical literacy can look in New Zealand classrooms. Sandretto's (2011) book *Planting Seeds* outlines a major study with New Zealand teachers of all year groups and found that in New Zealand, there is a need to support teachers to engage with multiliteracies and critical literacy in the classroom. Other studies Sandretto has been involved in give a more in-depth look at integrating critical literacy into guided reading and writing practices within a classroom environment, many mentioned previously in this literature review (Sandretto, 2006; Sandretto & Tilson, 2017).

The Ministry of Education (2020) notes that critical literacy is an important skill for Years 4 to 8 students to learn, however, while many teachers in New Zealand were familiar with the idea of critical literacy, few feel confident implementing it into their literacy lessons. Other studies mention the importance of critical literacy for New Zealand classrooms noting the power it must decolonise education and empower Māori and Pasifika students to be more active in their communities (Brimacombe et al., 2018; Parr, 2017), which will help lessen the gap in literacy achievement between these students and their pakeha (white European) peers (McNaughton, 2020).

Multiliteracies in New Zealand

The Multiliteracies Working Group, led by the New Zealand Ministry of Education found a need for young people to acquire the skills needed to make meaning in a technology-rich and culturally diverse world (Jones, 2009). The *Tātaiako* document (Ministry of Education, 2010) highlights the need for incorporating multiple literacies into the teaching and learning of Māori students which can help to value their cultural and linguistic backgrounds. Māori worldview incorporates multiple literacies including oral histories, pepeha, karakia (incantations) as well as valuing connections between text, people, and the land. By valuing multiliteracies education in New

Zealand classrooms, we can value Māori learners and help to develop 21st-century literacy practices in New Zealand classrooms (Heteraka et al., 2023).

Many teachers need professional development in implementing multiliteracies practices in the classroom, with studies finding that teachers were not self-assured enough in integrating multiliteracies into their classrooms (Hickey, 2019; Kervin & Mantei, 2017).

21st-century literacies in New Zealand summary

McNaughton (2020) highlights many recommendations to improve the literacy levels of students in New Zealand, with a number relating to 21st-century literacies. McNaughton (2020) states, “critical thinking must be developed in [Year 5-8], especially for digital and social media contexts” (p. 3) and further explains that digital technologies are changing the way that literacy is being taught and learned, therefore there is a need for teachers and schools to adapt to these changes. He goes on to explain the need for a high-literacy diet consisting of multimodal texts; traditional and digital, and how classrooms in New Zealand should focus more on social and cultural context again using online, digital, and traditional platforms for learning (McNaughton, 2020). McNaughton has found literacy teaching in New Zealand schools requires a revamp and his recommendations echo statements made in the New Zealand Curriculum. The literacy pedagogical resources used by teachers are 10-15 years old and do not incorporate current research findings.

Conclusion

This section explored the literature around the topic of literacy and 21st-century literacies. It reviewed the evidence around 21st-century literacy, including critical literacy, digital literacy and multiliteracies. Each of these aspects of 21st-century literacy was explored on its own with an

investigation of the relevant research and studies in the context of upper primary classrooms and then in the context of education in New Zealand.

Potential gaps in 21st-century literacy include a lack of research into how teachers plan for 21st-century literacy. There have been studies investigating the separate 21st-century literacies like digital literacy, critical literacy and multiliteracies and how they can be implemented in classrooms but less into 21st-century literacy as a whole. This study will contribute to knowing what support is needed for teachers to take the literacy frameworks explored above, advice from literature and turn these into action i.e. implementing 21st-century literacies in classrooms.

This review of the literature surrounding 21st-century literacies indicates that the world is has already changed greatly yet a lot of the ways literacy is taught in schools uses outdated pedagogies and practices. This research seeks to uncover some answers to how planning and teaching of 21st-century literacies occurs in Year 5 to 8 classrooms in Aotearoa, New Zealand.

Methodology

Introduction

This chapter outlines the methodology for the research undertaken during this study. Part One sets out the research design, including the frameworks and paradigms that underpin the research and explores the ethical considerations surrounding the study. Part Two describes data sources, methods for data collection and the procedures that took place during the collection of data. Part Three discusses the analysis undertaken, including a breakdown of the thematic analysis of data. The section is concluded with a summary of the various methods.

Part 1: Research Design

Introduction

This research seeks to uncover the teaching and learning practices of 21st-century literacy through discussion and analysis of planning. A qualitative framework used within an interpretivist paradigm underpins this research. Qualitative research is a scientific method that is focused on exploring and understanding human behaviour, experiences, and attitudes. It involves collecting data through open-ended interviews, observations, and other non-quantitative methods (Atkins & Wallace, 2014).

Research approach

Data was collected through semi-structured interviews with New Zealand-based Year 5 and 6 teachers (Mann, 2016). The same teachers shared their planning which was analysed using thematic coding. Semi-structured interviews with 4 teacher participants were recorded and transcribed, then thematically coded for analysis (Braun & Clarke, 2012). Teachers' long-term and short-term literacy planning was collected and analysed through a literacy framework, specifically

created for this purpose (Coiro, 2020; Freebody and Luke, 1990 ; Green, 1997), and used to explore the extent to which 21st-century literacies were being explicitly planned and taught.

An interpretivist approach was used for the methodology, data collection and analysis. Interpretivist research seeks to emphasise the importance of understanding phenomena from the perspective of the people involved. It is a philosophical viewpoint that seeks to understand the world through the experiences and interpretations of individuals. Its aim is “to establish causal relationships in order to provide an explanation” (O'Donoghue, 2018, p.21).

Informed by social constructivism and grounded theory, an interpretivist approach views knowledge not as objective or absolute, but rather subjective and open to interpretation (Denzin & Lincoln, 2011; Yin, 2014). All human action is meaningful and therefore needs to be interpreted within a social context. By exploring different people's perspectives within a context, researchers can make sense of a situation or even the world (O'Donoghue, 2018). This approach allows for smaller-scale research, like this one, and allows some subjectivity to try and understand the underlying meanings behind people's actions (Onwuegbuzie & Leech, 2004).

Participants

Participants were selected based on the criteria that they taught Year 5 to 8 students in upper primary classrooms in New Zealand. These year levels were chosen because during the upper years of primary students move into more complex texts and formats for reading and writing. A lot more digital technology is used in these year levels inside and outside of school (CensusAtSchool, 2023). All participants in this study were invited to take part voluntarily. The PIS, available to all those invited, made clear that the study was focused on 21st-century literacies, with a particular focus on critical literacy, digital literacy and multiliteracies. Schools and participants were approached based on recommendations from a professional learning provider and by emailing local schools in the area.

Table 1

Participant information

<i>Participant</i>	<i>Year level taught</i>	<i>Classroom style</i>	<i>Location</i>
Karen	Years 5 and 6	Innovative Learning Environment	Auckland
Linda	Years 5 and 6	Single Cell classroom	Taupo
Tim	Years 7 and 8	Single-cell classroom	Auckland
Marta	Years 5 and 6	Single-cell classroom	Auckland

All four participants are currently Year 5 to 8 teachers in New Zealand classrooms. They are all experienced teachers with 10+ years of experience teaching in primary schools across New Zealand and overseas. Pseudonyms were used in place of participants' real names.

Karen (pseudonym) is a Year 5 and 6 teacher at a full primary school in Auckland, New Zealand. She teaches in an Innovative Learning Environment with one other teacher. Karen and her co-teacher run a traditional literacy programme within their learning environment. They plan together using Google Docs. Students are organised into groups based on their reading level and see their teacher every second day and complete follow-up tasks on the alternating day. Spelling is organised as a separate learning area, not integrated into writing which is taught in four large groups alternating again between a teacher lesson and independent writing activities.

Linda (pseudonym) is a Year 5 and 6 teacher at a full primary school in Taupō, New Zealand. She teaches in a single-cell classroom and is also the Year 5 and 6 team leader. She has taught in New Zealand and the United Kingdom. The school she teaches at runs a Structured literacy programme using the IDEAL platform. Phonics lessons are created by this programme along with follow-up tasks. The rest of the reading and writing programme is planned around the school inquiry focus for each term, linking text choice and writing genre.

Tim (pseudonym) teaches at an Intermediate school with 800 students in attendance, currently in a Year 8 single-cell classroom in Auckland New Zealand. He is originally from the United Kingdom but has been teaching in New Zealand for many years. Tim's classroom programme is run mainly on Google Classroom, including his literacy programme. He has a long-term planning document that he uses to integrate his reading and writing lessons into the school's inquiry focus of the term, for instance, New Zealand History. His reading groups are based on reading ability and do guided reading sessions with him on a regular basis. When not working with the teacher, students are focused on independent learning and follow-ups like the 'Article a Day' activity on the Readworks (2023) website or playing vocabulary games online. Writing is taught at a whole class level with learning intentions that relate directly to the reading intentions showing a clear link between reading and writing.

Marta (pseudonym) teaches in a single-cell Year 5 and 6 classroom in Auckland, New Zealand. She is the team leader of her team who and uses a prescriptive oral language programme that builds vocabulary for the literacy programme and other major curriculum foci, e.g., science investigations. The writing programme is taught as a whole class lesson and links to the same curriculum focus for each term. She takes guided reading in mixed-ability groups that are based on student's ability in reading. When not with the teacher, students complete 'response to text' activities independently.

Ethical considerations

This study followed all ethical parameters outlined by the University of Auckland Human Participants Ethics Committee (UAHPEC). As per the approved processes, teacher participants were informally approached through a mutual professional learning provider, as well as through emails to schools. No minors were involved in the study. Participants were fully aware of the nature of the research to be confident in consenting or declining to be involved. Informed consent was gathered

by the teacher participant and the principal, on behalf of the Board of Trustees of the participating teacher's school. Participants had the research process clearly explained to them and were aware that participation was voluntary. Throughout the process, participants were kept informed about the confidential nature of the study, to make them feel comfortable and at ease with the process.

Further confidentiality was enabled through the use of pseudonyms for teachers and all teachers, school and student names were deleted from the planning collected from participants. The participants may be able to see themselves in the findings, but it is unlikely outside sources would be able to identify the teachers or schools involved. When conducting interviews, participants were informed that they could stop the interviews at any time and were welcome to ask questions or clarify anything throughout the process. All online data has been stored in University of Auckland managed online drives, being held for six years. Any printed transcripts were destroyed.

Validity

Validity in qualitative research refers to the extent to which the research accurately measures what it intends to measure. In other words, it's the degree to which the findings reflect the reality of the phenomenon being studied. Qualitative must be trustworthy and conducted with rigour if it is going to be of use to the wider community (Merriam, 2009). Triangulation of data sources is integral to maintaining validity (Denzin & Lincoln, 2011). This research triangulates data from thematic coding of interviews, planning documentation and memos throughout the data analysis process.

Remaining impartial while researching is important for internal validity (Atkins & Wallace, 2012). Internal validity was achieved by discussing themes with research supervisors, as well as reflecting on the findings through the use of memos. Validity within the semi-structured interview process is achieved through well-researched interview questions and the professional, well-organised interview techniques employed. Participants were also offered the chance to review their

interview transcript and make changes if they wished to. No one took this offer up so it can be assumed they were pleased with the integrity of the interview transcripts and findings. External validation occurs when a study's findings can be used in other contexts or communities. It is hoped that teachers and leaders in other communities can transfer the findings from this context to enact change in literacy practices, bringing literacy pedagogy more in line with the 21st century.

Reflexivity

A limitation of qualitative research could be the reliance on the researcher's interpretation (Onwuegbuzie & Leech, 2004), leading to unreliable data and findings. Bias can influence the final product of research and investigators need to understand their point of view within the context of the study (Merriam, 2009). An essential part of the research process, reflexivity is an important consideration during data collection and analysis. Being aware of one's own biases, assumptions, and values, and how they may impact their research is important. This can happen on an unconscious level and therefore researchers need to reflect on their positionality and how it may influence the research process and findings (Corbin & Strauss, 2008).

Mann (2016) discusses the need for examining ourselves as researchers, reflecting on preconceptions, biases and assumptions that may affect interactions with participants and data. This can help to ensure that the research is more objective and accurate. The online interviews were conducted in a comfortable space. Being prepared and organised made the participants feel comfortable and at ease. Mann (2016) suggests that a perk of online interviews is the ability to see an image of yourself in the corner, which means researchers are able to keep an eye on their expressions and body language, adjusting to maintain professionalism and neutrality.

While conducting the semi-structured interviews there was an attempt to maintain eye contact with participants and keep voice and facial expressions as neutral as possible and also

engaged in discussions with research supervisors reflecting on the process and interactions within the study.

Part 2: Data Sources

This section outlines the data collection methods and procedures undertaken for this study. Two main sources of data were collected, semi-structured interviews and an investigation into teachers' planning documentation using coded analysis. The University of Auckland Human Participants Ethics Committee approved the research on the 28.06.22 for a period of three years. Data collection began in 2022 and concluded in 2023.

Multiple data sources allow for multiple facets of a phenomenon to be investigated, or rather, one piece of the puzzle to add to the understanding of the research question (Baxter & Jack, 2008). This research used semi-structured interviews and analysis of literacy planning to find out how Year 5 to 8 teachers plan for and teach 21st-century literacies.

Semi-structured interviews

Semi-structured interviews in educational research refer to a flexible style of data collection that mixes structured and unstructured questions. Unlike structured interviews, semi-structured interviews provide interviewers with the flexibility to probe deeper into responses and ask follow-up questions to clarify meaning. Semi-structured interviews provide a reassuring format and don't pressure the interviewer into sticking to a structure (Mann, 2016). Semi-structured interviews allowed participants to feel comfortable enough to be able to talk in their own way (Drever, 1995), not bogged down by structure. They are commonly used in qualitative studies, allowing for open-ended responses from participants without losing focus or direction, making qualitative interviewing

a flexible and powerful tool to capture the voices and the ways people make meaning of experiences (Rabionet, 2011). The interview questions were piloted with two colleagues to get a feel for how the questions flowed and to see if the answers would produce data to answer the research question. These pilot sessions went well and as a result, the questions were tweaked to flow a little better. An explanation at the start to allow teachers to fully understand the elements of 21st-century literacy was added, one of these was an explanation of the semiotic systems to help participants fully understand what is meant by multiliteracies and multi-modal learning. These clarifications helped them answer the questions about their own planning in relation to these literacies.

The option of online or face-to-face interviews was offered, with three participants taking the online option. Participants were given the option of selecting the location for the interview based on their level of comfort. Possible options given were at their school, online via Zoom or a neutral location such as a cafe. The quality of online and in-person interviews was assured by building whanaungatanga and rapport by being open, friendly, flexible, and empathetic to participants' thoughts and opinions (Bishop, et al., 2014; Brayda & Boyce, 2014; Hooley et al., 2012). All participants sent through a sample of their long-term and weekly literacy planning via email. Participant's planning was exclusively done on Google Docs but was received as PDF documents. All planning received was printed out and had names and places blanked out before being saved onto the University of Auckland online storage drives.

The researcher used a set of questions that were predetermined but allowed the use of follow-up questions that may arise from answers given. This allowed the researcher to delve deeper into specific responses. Semi-structured interviews with teachers can elicit personal narratives of experience within the educational environment, making them an essential tool for exploring different areas within teaching and pedagogy (Atkinson & Silverman, 1997). Because the objects of inquiry in interviewing are human beings, researchers must take extreme care to avoid any harm to them (Fontana & Frey, 2000). The study's semi-structured interviews were conducted face-to-face

and online over video conferencing software Zoom. This was chosen for its familiarity (many hours of teaching online during COVID-19 lockdowns) and the ability to record the audio of the conversation, as stated in the PIS. Participants were given the opportunity to choose how to engage in the interview, three chose online with one selecting the in-person option.

Challenges with online interviewing include the disembodiment of the researcher, as Hooley et al. (2012) discuss, therefore there is a need to build rapport through being open, friendly, flexible, and empathetic as a key component for online interviews to be successful (Brayda & Boyce, 2014). Although a newer form of interviewing, researchers have found online interviews to be a sound data collection device (de Villiers et al., 2022; Hooley et al., 2012; Salmons, 2016). Participants were sent a link through email prior to the interview. Interviews were begun with the concept of *whakawhanaungatanga* – building relationships with participants (Bishop et al., 2014; Te Aka, 2023) through welcoming and asking open questions. This relationship provided context for the discussion that takes place. Participants in the study were made to feel like contributors to the study, not subjects being studied.

The in-person interview was recorded, allowing the researcher to be fully present in the discussion, not focused on taking notes. Audio recordings of the interviews were taken using the iPad Voice Memo application, then saved to University of Auckland online storage and deleted from the iPad. Online interviews were recorded using the Zoom software and saved to online storage. The audio was then transcribed by the researcher using the intelligent verbatim style of transcription. This involved editing out any extraneous words or phrases, like filler words or repetitive phrases, that didn't contribute to the discussion while still retaining the overall theme of the conversation. This helped me to focus on the most important aspects of the interview, disregarding any irrelevant, off-topic, comments (Johnson & Basile, 2011). The interview transcripts were sent back to the interviewees and participants were invited to make changes and check for integrity (Merriam & Tisdell, 2016).

Planning documents

The second source of data were the planning documents of participating teachers. Planning documents can be used as artefacts in education research which allow researchers to examine how teachers plan for and teach different learning areas (Archer & Hughes, 2011).

The rationale for collecting teacher's planning was to correlate the discussions that took place during the interview process. This provided insight into the extent to which teachers were confident to plan for and teach 21st-century literacies. Planning documents these days are vastly different from even ten years ago. Many teachers plan on word processing sites like Google Docs, allowing them to collaborate with others, add hyperlinks and images and create teaching and learning pathways that cater for a diverse range of learners (Charles & Dickens, 2012). Planning is often a collaborative process, with teachers co-planning and teaching, or interacting online to plan for literacy instruction. The planning received through this study contained many links to a range of different websites and online resources, which were explored to find the type of resource, the semiotic system it covered and which, if any, type of 21st-century literacy it related to.

All teachers' planning is different. Through the use of thematic coding, main concepts could be drawn out and explored (Corbin & Strauss, 2008). Hammersley and Atkinson (2007) state that documents are social products that must be examined critically as they reflect the perspectives of their authors. Researchers can explore planning documents to find what teachers value or deem important for their students to learn. Documents can be a valuable tool when used as a secondary data source (Peyrefitte & Lazar, 2018) and through this researchers can see how teachers' beliefs about 21st-century literacy are translated to learning experiences for students.

This study was not concerned with judging the quality of the planning, but with investigating how 21st-century literacies were planned for and taught in upper primary classrooms. By closely examining teacher's planning, researchers can begin to see how some teachers organise literacy

learning experiences to help students become literate, self-reliant learners in a 21st-century literacy landscape.

Memos

Personal, reflective, notes were written after each initial coding of the interview transcripts to collect thoughts and hunches about the data sets. These notes were useful in collecting thoughts while sifting through the large amounts of data from the interview transcripts and planning documents (Corbin & Strauss, 2008). These notes were in part reflective and part analytical, providing personal insight and context to the research while also being used to interpret the data and analysis (Creswell, 2013).

Part 3: Data analysis

The following section outlines how these data were analysed using thematic coding, including a summary of the thematic analysis.

Thematic Analysis

A code is a short phrase or word that attempts to capture the essence of language or visual-based data (Saldana, 2015). Essential to qualitative research, coding allows researchers to identify and group similar ideas together to systematically study various phenomena (Edwards & Lampert, 2014). Coding and thematic analysis is the core of grounded theory research which holds the view that the data does not answer the research question, the interpretation of the data through coding does (Danermark, 2002). During thematic coding, the researcher needed to put aside preconceived

notions of what might be found in the data and let the analysis guide the findings (Corbin & Strauss, 2008).

To do this, and to make sure the coding process was done systematically and rigorously, this study employed Braun and Clarke's (2006) six phases of thematic analysis to systematically analyse the data. This process enabled the data to be sifted through and filtered to find common themes (Saldana, 2015). It involved systematically reviewing and analysing data in an unstructured manner to generate initial codes, which were organised into broader categories and themes (Lofland, 2006). By following Braun and Clarke's (2006) six stages of thematic analysis, researchers can ensure their data analysis is rigorous, transparent, and grounded in the data. The following section outlines the six stages along with the application of each stage to this study.

Stage 1: Familiarising yourself with the data.

In the first stage, the researcher becomes familiar with the data. Immersing yourself in the data, be it transcripts or audio recordings ensures that the researcher is familiar with the data (Braun & Clarke, 2006). This involved re-listening to the audio recordings of the interviews and reading the transcripts multiple times. The planning documentation was read multiple times in order to become familiar with the teaching and learning sequences involved. Some of the planning contained hyperlinks, these links were followed, and the websites were thoroughly investigated, as they make up part of the teacher's planning and teaching process. After being read through multiple times, the transcripts were sent to the interviewees for optional and/or additional comments. This familiarisation stage enables the researcher to start seeing the data as data (Braun & Clarke, 2012). It can help researchers to feel comfortable with the data and begin to generate codes and themes.

Stage 2: Generating initial codes.

This stage of the analysis involves generating initial codes that represent ideas and concepts within the data. The initial codes could be a succinct word or phrase within the data and Braun and Clarke (2012) write that “they do not have to be fully worked-up explanations” (p. 61) at this stage. Therefore, Braun and Clarke (2012) suggest making as many codes as possible which can be pared down later and related to common themes in the next stage of the process. For this stage, the key idea is, if in doubt: code it. This process is followed for the entire data set, in this case, interview transcripts and literacy planning documents. For the initial coding of the interview data, a highlighter was used to mark passages in the transcripts, jotting possible codes down in the margin with a pen.

During the initial coding of the interview transcripts, the initial were examples of 21st-century literacies that had been mentioned in the literature review, therefore the thematic analysis method used was a mixture of inductive ‘bottom-up’ coding and ‘top-down’ theoretical approach (Braun & Clarke, 2006). This enabled the researcher to look for different 21st-century literacies within the data, while also being able to code in other ideas and themes that arose within the data. Before being destroyed, the highlighted and annotated hard copy interview transcripts and planning documents were scanned to PDF, and all were stored securely on University of Auckland online storage.

After this initial coding on hard-copy paper, these codes and the relevant sections of the typed transcripts were transferred to a table on the computer. After using the highlighter function to replicate the highlighted passages on the hard copy, the initial codes were added in a column on the side. The use of a word processor enabled me to quickly collate my coded data, making the next stages of the thematic analysis easier. The coding of the planning documentation was similar to the interview transcripts. After the initial highlighting on hard copy, the same spreadsheet table described above was used to collate the highlighted, relevant passages aligning with the relevant passages from the interviews. This meant that the interview data excerpts could be backed up with

relevant examples from the planning. The last action within stage two of the thematic analysis was to make notes in my memo journal about the initial codes, with the corresponding highlighter colours used.

Stage 3: Searching for themes.

The third stage involves the researcher grouping codes together into potential themes. Exploring the similarities and differences, patterns and other recurring themes helps to see how the different ideas in data may relate to each other (Braun & Clarke, 2006). At this stage, Braun and Clarke (2006) don't recommend discarding anything at this point. There may be many areas of overlap and similarity that a researcher may collapse into one theme until they reflect a coherent pattern from within the data (Braun & Clarke, 2012).

Searching for themes, as Braun and Clarke (2012) say, "is an active process, meaning we generate or construct themes rather than discovering them" (p. 63). This was done by using hand-drawn mind maps to group and relate ideas to each other as part of the thematic process, moving them around until overarching themes emerged (Braun & Clarke, 2012). Creating a thematic map helps researchers to see the whole picture, looking at the different themes like pieces of a jigsaw puzzle being pieced together to create a meaningful picture of the data (Braun & Clarke, 2012).

Using the thematic map is helpful to get a holistic view of the data and through this, five tentative themes were constructed. Using this map, a thematic table was created with the theme, relevant codes and examples from the data, transcripts, and planning documents. This table brought together notes from the previous sections with a working title for each theme, a loose definition of the theme, quotes from the interviews and examples from the planning that support each theme. Key literature that backed up the theme was added, as well as notes around implications for practice. Having all the themes and supporting evidence in one document meant that reviewing and defining the themes in the next stages of the analysis, was more easily done.

During this stage of the study, after reflection and discussion with research supervisors, it was decided that the analysis of the planning document wasn't as robust as it could be. There were no 21st-century literacy framework examples to analyse the planning through. So, to unpack and analyse the planning more effectively a framework for effective 21st-century literacy programmes was created using the research unpacked in the literature review and four literacy models: The New Zealand Ministry of Education's Effective Literacy Practice (Gadd & Thompson, 2006), Luke and Freebody's (1990) Four Resources model, Green's (2013) 3D model of literacy and Coiro's (2020) Multifaceted Heuristic of Digital Reading. The ideas within them each were synthesised into one cohesive document which was titled: Six elements of an effective 21st-century literacy programme (see Table 2).

Table 2

Six elements of an effective 21st-century literacy programme

Key element	Definition	Significance	Possible classroom practices
Foundational skills	Teaching students the foundational skills of basic English - operational literacy.	Enables students to access text. Teaches them the basics so they can participate in society - reading, writing, and speaking. This doesn't have to be done with only traditional tools.	<ul style="list-style-type: none"> • Alphabet Awareness • Letter-sound relationships • Word-building and spelling rules • Understanding how texts work • Teaching specific skills through reading, writing and oral language programmes • Guided reading • Four resources link: code breaker • Greens 3D model of literacy link: operational
Comprehension and meaning making	Teaching students to construct meaning from texts.	Enables students to understand what they read and view and to engage with texts on a deeper level.	<ul style="list-style-type: none"> • Teaching comprehension strategies e.g., Activating prior knowledge, inference, summarising. • Encourage students to draw on their own experiences. • Traditional or multimodal tests • Four resources link: Text participant • Greens 3d model of literacy link: operational

Using multiple text modes and media.	Recognizing the changing landscape of literacy by exposing students to various text types and modes, to enable them to understand and make meaning from a range of texts.	It helps students develop skills to be literate in different contexts - offline, online, social media, search engines, and different text types and semiotic systems.	<ul style="list-style-type: none"> • Utilising a range of text modes in the classroom - books, eBooks, webpages, audio files, videos, presentations • Incorporating the semiotic systems into the reading and writing programme - linguistic, audio, video, spatial • Four resources: code breaker • Multiliteracies • Digital Literacy • Digital Citizenship • Greens 3d model of literacy link: operational
Critical literacy and analysis	Engaging students with texts to develop critical thinking skills, reflection, and analysis.	Promotes critical thinking in students and teaches them to be savvy users of technology and texts.	<ul style="list-style-type: none"> • Understand that no text is neutral, but represents particular views, voices and interests and silences others. • Questioning and reflecting on texts • Text choice that enables students to critically analyse. • Four resources link: Text analyst • Greens 3d model of literacy link: critical
Multimodal communication	Including teaching and tasks that help students express themselves, becoming creators of text that fit a range of audiences and purposes.	Enables students to express themselves effectively and creatively in a variety of modes.	<ul style="list-style-type: none"> • Introducing the semiotic systems into task creation. • Providing a range of digital tools for students to use when responding to text. • Four resources link: Text user • Multiliteracies • Digital Literacy • Greens 3d model of literacy link: critical, cultural
Social and cultural contexts	Understanding diverse perspectives and cultural contexts Social practices	Helping students to see where they sit in a diverse world, being aware of other worldviews to their own, in order to be inclusive of differences in society.	<ul style="list-style-type: none"> • Using a range of window and mirror texts • Culturally responsive practices • Introducing the use of family stories in reading and writing • Critical Literacy • Four resources link: Text analyst, text user • Greens 3d model of literacy link: cultural, critical

Through this framework, each of the participant’s literacy planning was analysed for evidence of 21st-century literacy practices. This new analysis was added to the existing interview data to create a holistic picture of how teachers plan for and teach 21st-century literacies.

Stage 4: Reviewing themes.

Bringing the research question to the forefront of the thematic analysis for stage four, ideas, and codes are reviewed to develop a clear and concise definition of each emerging theme. Braun and Clarke (2006) suggest a review of all data concerning the research question to make sure they accurately reflect the purpose of the study, as this stage is about quality-checking the codes and themes that have been constructed. During this stage, codes and themes may be discarded, or adjusted into new themes. It is important not to force codes into themes, but to adjust and tweak until a coherent picture of the data emerges (Braun & Clarke, 2012).

During this stage, the tentative themes were reflected upon and discussed with research supervisors until the themes had been refined enough to define and name them in the next stage of the thematic analysis. The comment function of Google Docs was used to add comments and share ideas for tweaking themes. At the end of the review process, six themes were left to define and link to the research question in the next stage.

Stage 5: Defining and naming themes.

This stage has researchers name and define each theme identified in the analysis, thinking carefully about how each theme links to the research question and relates to each other (Braun & Clarke, 2006, 2012). True, deep analysis takes place during this stage as each theme is defined and shaped into a coherent story. Extracts from the data were carefully chosen to help illustrate each theme and its relation to the research question.

The final six themes were placed into a table that was used to bring together the themes, their definitions, examples from the data, relevant research, and implications for practice. This table was then used as the structure for reporting the findings.

Stage 6: Producing the report.

The final stage of the thematic analysis is the production of the final report. A clear and concise definition of each theme, including examples from the data and a discussion of implications for the research question (Braun & Clarke, 2006). This is the result of the study and should “tell a coherent story about the data” (Braun & Clarke, 2006, p. 69). Using the names and defined themes from stage five, the report communicates a convincing analytical argument based on thematic analysis. It was written using the research question as a frame, connecting the themes with references to relevant literature to answer the research question.

Corbin and Strauss (2008) discuss that in qualitative research it is impossible to be objective as all researchers come with their different training, biases, and perspectives and that these end up being “woven into all aspects of the research process” (p. 32). Rather than focussing on objectivity, researchers should be sensitive to their role within the research and use this to best present the views of the participants. This sensitivity helps researchers make connections and be aware of how their thoughts could influence the analysis of data (Corbin & Strauss, 2008). It is important to present research findings with neutrality, therefore the data has been presented in the findings chapter objectively and impartially allowing the audience to draw their own conclusions (Creswell, 2014; Plano Clark & Creswell, 2015).

Summary of Methods

In this chapter, the methods undertaken in this study were outlined. A qualitative framework used within an interpretivist paradigm provides the foundation on which the research rests. Ethical considerations were explained along with comments on the validity and reflexivity of the study. Semi-structured interviews make up the bulk of the data alongside examples of teacher planning and with researcher memos providing secondary data. Braun and Clarke’s (2006) thematic

coding process was used to analyse the data and provide themes to be used to answer the research question and are presented in the finding chapter.

Findings

Introduction

The purpose of this chapter is to present the results of the data analysis in order to answer the research question and sub-questions:

1. *How do Year 5 to 8 teachers in New Zealand plan for and teach 21st-century literacies?*

- a. *What do the participants think 21st-century literacies are and do they think they are important?*
- b. *What 21st-century literacies do participants plan to use in their classroom?*
- c. *What barriers do participants perceive when attempting to plan and teach 21st-century literacies?*

This study sought to examine perceptions of 21st-century literacy and interpret how teachers in my study made decisions when planning and teaching these literacies rather than quantifying objectives and outcomes. By using the elements of an effective 21st-century literacy programme framework to explore the complex interactions between teachers, students, texts and learning tools, the aim was to uncover how 21st-century literacies were currently being taught in New Zealand Schools.

The findings are presented in two parts. The first part presents the themes from the semi-structured interviews while part two presents the findings from the planning documentation analysis, using the elements of a 21st-century literacy programme developed when analysing the findings.

Presenting the Findings - Part One: Semi-structured Interviews

This study aimed to explore perceptions of 21st-century literacy and how teachers plan and teach these literacies. Four teachers took part in this study, each participating in a semi-structured

interview. Through thematic analysis of these four interview transcripts, the following six themes emerged:

- Teachers believe that 21st-century literacies are important.
- The amount of 21st-century literacy teaching and learning differs greatly between classrooms.
- Participants used a variety of tools that enabled 21st-century literacy.
- Participants carried misconceptions about 21st-century literacies.
- 21st-century literacy opportunities happened across the curriculum.
- First and second order barriers prevented implementation of 21st-century literacies.

Theme 1: Teachers believe that 21st-century literacies are important.

All four participants acknowledged the changing world and its complexities around media and communication, noting that literacy is changing rapidly, and teachers are preparing students for a future that cannot be fully comprehended at this point. As Marta, a Year 5 and 6 teacher reported, “They’re 10 years old, who knows what the world looks like at 20?” All four participants overwhelmingly believed that 21st-century literacies were an essential part of students’ learning at school.

21st-century literacies were considered by participants to help teachers be more future-focused with their teaching and build students’ capabilities in digital, critical and multiliterate ways. When expanding on these ideas, participants mentioned a range of 21st-century literacies that they utilised in their classrooms with some examples being: using YouTube videos to teach literacy skills; using podcasts and audio clips for independent reading; using a range of websites with texts and follow-up questions and activities for students to complete; Google Apps for Education (GAPE) tools are used to share learning and for students to share learning.

Marta discussed that although the world is rapidly changing there is still a need for learning to be authentic and engaging. She believed that by providing students with choices and engaging

their passions, teachers could help create lifelong readers and learners. In her view, the use of 21st-century literacies and digital technology in the classroom on their own is not enough.

To counter the rising use of digital tools in the classroom, participants believed that the ability of students to be able to unpack a text critically and understand the author's purpose and point of view was seen to be an important skill. In terms of teaching critical literacy, however, only one participant, Tim, mentioned an explicit critical literacy lesson, focused on recognising bias and looking into 'fake news.' He went on to say, "I think the main thing it's important is to distinguish the nonsense from the reliable information." The other three participants mentioned critical literacy skills and strategies, specifically through the teaching of research skills and helping students be aware of trusted websites to find information for reading and writing tasks.

The use of digital technology was an important belief of 21st-century literacy discussions throughout the four interviews and due to its prevalence in all areas of our society, participants felt that it was important for students to be able to effectively use a range of different tools. They discussed the need for students, and all people, to be able to communicate effectively across different platforms. Their responses showed a clear understanding of the changing nature of literacy and communication, caused by the influx of digital technology and communication devices in society. Marta elaborated further on this when she said, "It's imperative. We're trying to teach children now for a future we don't even know what it looks like. So, who knows if what we're teaching now will be relevant?"

All participants believed that students need to learn to use digital technology in their learning. Tim, the only Year 7 and 8 teacher, believed that students already know how to use technology effectively, often better than their teachers do and that helping students to be discerning and critical users of technology was a better focus for his students than spending time teaching them to use different apps, websites, or technology.

While understanding the importance of 21st-century literacies, participants also believed in the need to teach the basics of literacy properly. This was shown particularly in participants' responses concerning the text choice of their literacy programmes. Texts were overwhelmingly traditional hard copies. School Journals and Connected series were the main types of text discussed by participants. Alongside this, the range of traditional activities that students were engaged in across the four classes shows that teachers still find value in teaching the 'basics' of literacy. Karen, a big proponent of teaching the basics well, said, "I think it is really important to teach the basics properly and whether that fits in with the different literacies or not, I am probably still trying to figure out for myself." Another participant, Linda, mentioned the need to teach comprehension and decoding skills before touching on any of the digital and critical literacy learning.

Theme 2: The range of 21st-century literacies students were engaged in differed greatly between teachers.

A range of 21st-century literacy tools were mentioned by participants as being used in their literacy programmes by these varied between participants. Interview responses of one participant revealed tools such as Google Lens, TED talks, stop motion videos, Flipgrid, Green screen videos, art activities and drama activities that were being used in her reading programme. Another participant had no eLearning teaching or learning, or any digital devices being used in their reading programme. These differences are explored further next. Two tools were mentioned by all four participants - Google Apps for Education (GAFE) and School Journals. All four participants used GAFE tools in their classrooms. These particular digital tools were used by teachers for planning and teaching, as well as by students for learning activities. GAFE tools include Google Docs, Google Sheets, Google Slides, Google Forms and Google Drawings and are a free suite of tools designed for classrooms. The tools mentioned as most frequently used were Docs and Slides for students to publish writing or share information when researching different topics. For example, one participant used Google Slides

extensively for students to research and present information collaboratively, albeit in a different curriculum area, but utilising 21st-century literacy skills and strategies like collaboration, digital literacy and sharing resources using online tools.

One participant, Tim, reported an extensive variety of 21st-century literacy resources and practices being used in their classroom. Tim engaged with digital tools readily, had a wider range of texts for literacy not just traditional or online reading, using online podcasts and news articles to supplement the reading programme. Another participant, Marta, reported incorporating oral language activities in her literacy programme, using traditional discussion and the website Flip.com to build on the linguistic semiotic system, allowing students to engage in discussion and build vocabulary for reading success.

Teacher participants engaged in different ways with 21st-century literacy. Some used it to provide a variety of text types while others used it to share learning resources and have students use online documents and presentations as a substitution for hard-copy textbooks. It is important to note that these tools were ones reported by participants during the interviews, the second half of this chapter investigates the tools that were actually planned for. Table 3 below gives a representation of the 21st-century literacy tools that were used by participants in this study. The headings show us the purposes for the tools. The 'delivery of content and text types' column shows the tools were mentioned by teachers to either teach a lesson or for students to read or write on during literacy instruction. The 'organisation and planning tools' were used to gather and/or share resources, games, texts, and activities with students. The 'online games and practice' section contains online websites that teachers set for students to complete independently to complement the literacy programme. The final column, 'student learning activities', highlights tools mentioned by participants that were used as activities for students to engage in

Table 3

21st-century Literacy tools mentioned by participants during interviews organised by type.

Delivery of content/text types	Organisation and planning tools	Online games and practice	Student learning activities
<ul style="list-style-type: none"> • YouTube - used to teach writing skills, watching clips of movies for reading programme. • Epic! - online book resource • TED talks - video speeches • RNZ Podcasts - audio non-fiction texts • IDEAL structured literacy platform • PDF - text • School Journals and connected series texts - hard copy, Google Slides and Audio 	<ul style="list-style-type: none"> • Google classroom - used to share text and tasks with students. • Te Kete Ipurangi (TKI) - online resource for teachers to find Google Slide and PDF versions of School Journals and Connected Series books. • Google Docs - teachers collaborative planning • Google Slides - used to share text and for planning. • Top teaching tasks - downloadable worksheets and writing prompts 	<ul style="list-style-type: none"> • Readworks - Article a Day - students • Hector’s world - digital citizenship lessons and activities • Splash learn - reading and maths games to practice skills. • ARBs - online formative assessment tasks • IXL - online activities to learn reading and writing skills 	<ul style="list-style-type: none"> • Google forms • The internet - used for online research. • Google Lens • Drama • Flip.com • Stop motion. • Green screen video creation • Art - responding to text through art and drawing. • Answering comprehension questions - written in student reading journal • Reading booklet - teacher created booklet made up of a range of worksheets. • Writing activity • Oral language activities

Theme 3: Participants used a variety of tools that enabled 21st-century literacy.

Participants used a variety of tools that enabled 21st-century literacy to happen in the classroom. The tools described in Table 3 above encompass a wide range of digital and technological resources that are examples of digital literacy, critical literacy and multiliteracies. Many examples of multiliteracies, including semiotic systems, were discussed by participants as being used in their reading and writing programmes. Some examples of this were the use of images and video to prompt reading and writing tasks as well as students creating mini books using pen and paper or the Book Creator app and website. Marta spoke about providing students with a range of text-creation options to bring multiliteracy into her programme, explaining, “A lot of them choose Google slides, but then actually some of them have actually been choosing, like, using the green screen and those green screen apps and stuff. You do always get the kids that do posters or like science boards.”

Audio was used across all four participants' classroom reading programmes as a way for students to listen to, for example a School Journal audio text, located on the Ministry of Education's Te Kete Ipurangi (n.d) website (TKI). Linda reported using audio links from the TKI website in her reading programme, “I use a lot of audio, especially for my dyslexic children. But then also, you know, my, my really good ones love listening to stories well.” Tim, as mentioned previously, reported that he provided podcasts for students to listen to and respond to during students' independent reading time.

All teachers either ran a bring your own device (BYOD) programme or supplied digital devices for students to use. A lot of digital technology was discussed during the interviews with Google apps being the main type of digital tools being used across all four classrooms. Internet research was widely used during the prewriting process as a way to gather information about a subject before writing. Internet research skills were also seen in other curriculum areas for finding information. One participant, Karen, had students researching their cultural heritage in Social

Sciences and another, Linda, had students finding information about different Saints for Religious Education.

Digital technology, as a 21st-century tool, was used by teachers when planning for learning. All four participants planned collaboratively with their team and/or co-teacher using GAFE tools, mainly Google Docs. This planning was shared among many teachers, filled with links to online text, videos, other documents or presentations, websites, and online games, as Marta stated, “So when you see the planning, you'll see very clearly these links to text of different levels...and we've already checked all the texts out. And then they [teachers] can choose whether they want to use the actual physical journal or the online text.”

Critical literacy was discussed less often than digital and multiliteracy but was still present; predominantly used as mini lessons teaching students about effective internet research. Only one participant, Tim, discussed teaching explicit critical literacy lessons around understanding bias and fake news. He stated, “I do the critical stuff...but I've actually just integrated it into my reading program. There's a whole unit we do in reading on critical literacy.” All participants understood the necessity for learners to be aware of how to find information from trusted online sources, as highlighted by Marta, “We try to teach them traditional but also modern day. Don't read the first thing. Look it up. Cross-check it.” However, not all mentioned explicitly teaching students' specific skills to do this.

Theme 4: 21st-century literacy opportunities happened across the curriculum.

Reading, writing, and speaking are foundational skills that all students need to learn to participate in society. From a young age, students learn to read and write in isolation, but as they move up year levels, they begin to draw on their reading and writing skills to access other areas of the curriculum. These cross-curricular affordances were highlighted through participants' discussion of 21st-century literacy skills being used in other areas of the curriculum. Marta stated, “We want

them to be active thinkers and active learners. And we like them to ask questions and be curious. So just opening them up to lots of different types of literacy.”

Connecting literacy to other parts of the curriculum can help students make connections with their world, deepen their learning, and teach them that skills are transferable. Linda, a teacher at a state-integrated Catholic school, utilised 21st-century literacy strategies when teaching Religious Education, helping students to create Google Slides and multimodal presentations about saints. This linked reading, writing and Religious Education together into one rich task using 21st-century literacy skills and semiotic systems like audio, visual and linguistic. Karen, in her reading programme, had students watching films, reading books, and recreating scenes through drama, connecting multiple curriculum areas and literacy skills.

“This is RE, but I was using the stuff off Faith Alive [New Zealand Religious Education website] and it was just so boring about inspiring saints. And so, they all had to choose a saint and they all had to decide how they were going to share with the rest of the class. One group...they did this drama about Saint Jerome. And then they did this whole...Google slide, and it had like, links to YouTube too.” (Linda, research participant)

Connecting curriculum helps with motivation and engagement by making learning more meaningful and relevant to their lives. Marta spoke of using 21st-century literacy skills in other curriculum areas such as Science, students creating multimodal presentations and using online tools to record their scientific presentations and giving and getting peer feedback on their oral presentation and scientific understanding. It was evident that literacy skills were being used across the curriculum, alongside multimodal and digital tools. Using 21st-century tools allowed participants to link their school-wide topic for the term more easily through online texts, audio files, and videos. Tim used the Radio New Zealand website to gather podcasts for students to listen to during their reading learning time and Linda utilised online sources and TKI to get audio of text and Google Slides versions of text related to wider topics allowing integration of reading and other curriculum areas.

Theme 5: Participants had misconceptions about 21st-century literacies.

Through the interview process, participants discussed their ideas about what 21st-century literacy is and why it is important. All participants were clear about the 'why?' but when discussing the 'what?' of 21st-century literacy, participants had misconceptions about the definition of the different literacies that make up 21st-century literacy; multiliteracies, digital literacy and critical literacy.

Participants' misconceptions around digital literacy arose from the belief that using a digital device like a Chromebook or iPad was doing the 'what' of digital literacy. Participants' understanding of digital literacy, overall, was a general view of using devices to research information for reading and writing tasks, or using devices for students to work independently, reading, playing games, typing their writing, or completing online worksheets.

Linda discussed incorporating 'coding and fixing bugs' into her reading programme. This is part of the New Zealand Curriculum under Technology, specifically the strands of Computational Thinking and Designing Digital Outcomes, and while adding this into her literacy programme could have been a positive cross-curricular affordance, in this case, it was a misconception as to what digital literacy is.

Participants' use of Google Docs in their classroom shows that they were substituting hard copy texts and worksheets for online text and worksheets; using tools such as Google Classroom to make organisation easier. One participant, Tim, however, did make the connection that we need to move beyond substituting and help students become confident creators of text, saying, "I think there's a difference between like consuming the technology and creating stuff like I think a lot of the digital technology stuff that I see in schools, they're just consuming websites or different little apps." Only one participant, Marta, discussed teaching students about digital citizenship alongside using digital devices in the classroom.

During the interview process, participant Karen queried if Multiliteracies was “being aware of students’ different strengths,” elaborating further saying that is important to build on students’ strengths during literacy learning. Tim, in his interview, mentioned using the oral language ‘Think, Pair, Share’ strategy as a form of multiliteracies, utilising the linguistic semiotic system. However, this was in reference to his general classroom pedagogy and while using oral language techniques is an effective way to engage learners in discussion, it does not fully incorporate multiliteracies into the literacy programme. Marta also frequently discussed the oral language component of her literacy programme when asked about how she includes multiliteracies in her classroom. This showed in her literacy planning but as it did not include multiple text types or modes, it was not considered to be a multiliterate approach to literacy.

Karen misunderstood the meaning of critical literacy, instead likening it to critical thinking skills and using different skills and strategies to unpack a text, rather than the exploration of bias and points of view that critical literacy entails. Linda mentioned that her students’ low comprehension skills held them, and her, back from exploring critical literacy when reading.

Although there is an element of crossover between digital and critical literacy, Tim began a conversation around the New Zealand Curriculum technology strands of computational thinking and designing digital outcomes and how they are important for students to learn when learning about critical literacy. While an important part of school and integration with technology and coding, this isn’t a true reflection of critical literacy.

Theme 6: First and second order barriers prevented implementation of 21st-century literacies.

Although participants saw the importance of bringing 21st-century literacies into the classroom, they all spoke about challenges to implementing them in their classrooms. The main challenges to the implementation of 21st-century literacies discussed during the interview process were time, infrastructure, budget constraints, student behaviour and capabilities.

Participants noted that time was needed to explore and learn new technologies and literacy practices to incorporate 21st-century literacies into classrooms. Already time-poor, they felt they were not able to fully investigate and trial new tools and strategies in their classrooms. The participants with the least number of digital tools embedded in their literacy programmes were the most vocal about not having enough time to investigate and try out new tools. For example, in Karen's Year 5 and 6 class, most of the independent learning in reading was worksheet-based with devices and online tools not being used at all as she felt that there was "just [a] lack of time to explore the resources."

Budget and infrastructure challenges were also mentioned as barriers to implementation. Some felt that there was a lack of money to invest in digital equipment and online learning programmes. Karen felt that the devices available to her students were outdated and broke down regularly - this led to the devices not being used for literacy learning in this classroom. She also explained, "No... we actually don't have them on devices at reading time and that's because we don't have access to reading programs that...or even literacy programmes that sort of suit our level."

Teachers' technological capabilities were another major challenge faced by participants. Many did not feel that they had the skills to use and teach with the new technological affordances available and so stuck with using well-known tools like GAFE, an example of a safe digital tool all participants felt comfortable using in their classrooms. Karen mentioned that she felt overwhelmed by the amount of reading tools online and that she didn't know what she didn't know. This led to her not planning for students to use digital tools at all in the reading programme.

It is interesting to note, however, that all participants felt comfortable using this technology to collaborate with other teachers to plan for literacy instruction but didn't necessarily feel as comfortable using the same tools with students. One participant, Marta, felt that it was sometimes a struggle to include more 21st-century literacy in her team's reading and writing as other teachers were not always willing to try new tools or strategies.

Another challenge participants faced was dealing with student behaviour when using digital tools. All teachers mentioned that dealing with students not using devices appropriately, either breaking them or sending inappropriate messages is a challenge to implementation. One participant noted that trying to get students to collaborate on an online document or presentation was difficult as the students end up in the wrong place and doing the wrong thing. Dealing with student behaviour was seen as a barrier and participants felt that the time it took to deal with these behaviours took away from the teaching and learning that should be happening in the classroom. Marta, in her interview, explained that she spent “a little bit more time focusing on behaviour and looking after devices and being respectful of property.”

Summary of the semi-structured interview findings

The six themes that were revealed through the thematic analysis provide an understanding of teachers’ beliefs and feelings towards 21st-century literacies. Firstly, there was a consensus among participants regarding the importance of 21st-century literacies for students’ future success, however, there is a disparity in the extent to which these skills are taught and learned across classrooms, highlighting inconsistency in their integration into the literacy programmes. Participants discussed actively employing a variety of tools and technologies to enable 21st-century literacy, nonetheless, there were misconceptions regarding what 21st-century literacy truly encompasses. Participants explored cross-curricular possibilities for integrating these literacies into various subjects, aiming to make them relevant across the curriculum. Lastly, the identification of implementation challenges signifies the presence of obstacles that need to be addressed to effectively incorporate 21st-century literacies into reading and writing practices.

Presenting the findings part two: Planning Documents

To analyse the planning documents a framework was created based on four literacy models presented in the literature review. Out of these literacy models, six elements of a 21st-century literacy programme were outlined:

- Foundational Skills
- Comprehension and meaning making.
- Using multiple text modes and media
- Critical literacy and analysis
- Multimodal communication
- Social and cultural contexts

This next section outlines the analysis of teacher planning using these six elements of 21st-century literacy, outlining how participants' literacy programmes incorporated each element.

Foundational skills

Foundational literacy skills involve teaching students to read and write through a range of activities. Participants used a range of teaching and learning strategies to help students learn to read and write. The teaching of foundational literacy skills made up the bulk of the teaching and learning in participants' literacy programmes. Three out of four ran ability-based literacy groups, seeing each group on a rotation, while the rest of the students completed independent learning tasks.

Karen had clear learning intentions for her reading groups' lessons and a text based on students' reading age or reading level. Literacy planning was linked to the schoolwide concept of Culture. Examples of learning foci that students were engaged in for foundational writing:

- Using similes and metaphors in our writing
- Linking paragraphs
- Constructing compound sentences

Students' independent tasks for reading included a booklet of paper worksheets created by the teacher, practising spelling (no elaboration given for this) and SSR (Sustained Silent Reading). The writing programme was organised on a similar rotation, with students completing writing about their culture, a schoolwide focus, as well as free choice writing and language study.

Tim's reading programme was organised around ability groupings. Every student completed a reading comprehension activity from the 'Article a Day' on the Readworks website. From there he would take reading groups while the rest of the class completed other activities independently. Writing was taught as a whole class based on a term focus. Narrative was the focus of the planning shared with learning examples being:

- WALT: identify key features of a narrative.
- WALT write our stories in different perspectives.

Students also worked on a spelling programme during their literacy time, learning vocabulary and spelling rules based on prefixes, suffixes, and root words. Students received ten spelling words a week, memorised them and completed vocabulary quizzes in their books.

Linda's school had bought into a structured literacy approach for their reading and spelling programme. Year 5 and 6 students engaged in phonics instruction for 30 minutes in the morning: learning and practising sounds and spelling rules, for example, the 'oa/ow' sound. Later in the day, she would run reading and writing sessions for the class. Guided reading groups were made based on students' ability in reading and writing and learning intentions were taught through whole-class lessons. The StepsWeb website (StepswEB, 2023) was used as an independent activity to improve and consolidate students' vocabulary and spelling learning.

Marta used a range of strategies to teach reading and writing and was the only classroom to have an explicit oral language complement to the literacy programme. Reading was organised around mixed-ability grouping, while writing was whole-class teaching and learning sessions. Students in Marta's classroom focussed their writing learning using goals that were kept on their desks used to self-assess during and after writing. Spelling and word study skills were practised independently through games like Boggle, where students made words using a set of random letters (Hasbro, 2023).

In summary, the literacy planning that was shared for this study showed that all four participants taught the basics of reading to students through reading groups; mainly grouped on ability. Lessons were focussed on learning intentions and the majority of texts used were School Journals. Apart from one classroom that used writing groups, writing was taught through whole class teaching around specific learning intentions. Spelling was not explicitly planned for and taught except in Linda's structured literacy classroom. The majority of spelling programmes were lists of words that focussed on morphology skills, or purely memorising them to complete a test once a week.

Comprehension and meaning making.

Teaching students to construct meaning from texts enables them to understand what they read and view and to engage with texts on a deeper level. Comprehension strategies like summarising, inferring meaning and activating prior knowledge allow students to draw on their own experiences and connect to what they read. This can be done with a range of traditional and multimodal texts to give students the tools to comprehend a variety of text types and modes.

Examples of meaning-making learning intentions from the analysis of literacy planning included 'I am learning to make and explain inferences using information from the text' and 'WALT

make predictions and compare and contrast the plot of two horror stories.’ A range of strategies were used to teach comprehension and meaning making across the four classrooms.

Karen utilised reciprocal teaching groups which involved students running their own guided reading sessions, with teacher support, alongside guided reading sessions run by herself. Learning intentions were chosen to link with the school-wide concept and focus. Independent activities were traditional in nature, generally, teacher-made follow-up tasks and a reading workbook created on a printer made up of inference and comprehension worksheets.

Tim used comprehension strategies from Sheena Cameron’s teaching reading Comprehension Strategies book (Cameron, 2009), predicting, and questioning as two examples of these. He used online learning websites like Readworks (2023) Article a Day site and the learning website IXL (IXL Learning, 2023) to help students practice their meaning-making skills online, an example of an IXL task assigned to students was ‘Determine the themes of short stories.’ Students would work on these activities during independent learning time when they were not working directly with the teacher.

In Linda's planning, comprehension strategies were mentioned, but not assigned to specific groups or used in the weekly plans. Comprehension strategies were linked with the schoolwide topic of Commonwealth games and used mainly during independent reading time, but not made explicit. Comprehension strategies were taught in Marta’s literacy lessons through mixed ability guided reading sessions, as well as whole class instruction through the Chapter Chat novel study. Participants all taught comprehension and meaning making through small group instruction alongside a range of independent learning tasks.

Using multiple text modes and media.

Most text types identified in the planning were traditional hard-copy texts. Examples included School Journals, Connected Series and various other readers like SAILS Literacy, novels, and big books. These texts made up the majority of texts planned for use by students in participants' classrooms, with learning foci on the linguistic or visual semiotic systems.

The four sets of planning that were analysed revealed that each teacher differed greatly in their acceptance and use of multiple text modes and media. While hard-copy texts were the prevailing text mode, there was a variety of other types and media that were planned for students to read during their literacy time. Examples of these 21st-century texts include YouTube videos, Google Docs and Slides, PDFs, online websites, and podcasts.

All four literacy programmes analysed highlighted the frequent planned use of School Journals. School Journals were first published in New Zealand, for New Zealand students in May 1907 (New Zealand History, n.d.). Now ubiquitous across New Zealand schools and classrooms, School journals and their counterpart, the Science and Maths Connected Series resource are a mainstay of traditional literacy instruction in New Zealand. They have come a long way from the first versions. While still offering a printed hard copy book, they also now offer online PDF, audio and sometimes Google Slides presentations to enable teachers to engage with the text in a 21st-century literacy learning way. By accessing the Te Kete Ipurangi (TKI, n.d.) website, three participants in this study used online versions of the School Journal and Connected Series texts in their literacy programme, allowing their students to view texts using a device, or to listen to audio versions of a text. This was done to help readers hear and read a text at the same time, and to make sharing of text easier by adding it to Google Classroom for greater access due to a limited number of hard copy books.

All texts used by Karen were hard copy school journals or readers. Karen felt that there was no budget or infrastructure within the school to implement the use of devices during reading time.

Karen's self-efficacy around using digital technology in the classroom also played a part in the lack of device use during literacy, however, Karen did plan to use YouTube videos as teaching tools. These were displayed on the classroom television for a small group of learners to learn a specific writing skill. Videos like 'What is a sentence?' and 'FULL STOP - How to use punctuation' helped Karen and her co-teacher teach writing skills (Miacademy Learning Channel, 2021, Learn Easy English, 2020). The other text type mentioned in Karen's planning was the film study of *Whale Rider*, which included drama as a response to the movie. For writing, the only use of 21st-century literacies was the use of internet search engines to research information and Google Docs to share learning intentions, exemplars and to publish writing.

Tim's literacy planning made use of a wide range of text types. Traditional texts included School Journals, Connected Series, big books, and poems. In terms of 21st-century literacy, Tim's text choices included Radio New Zealand podcasts ICYMI (Radio New Zealand, 2023), YouTube videos, online articles, images for writing prompts and GAFE tools for sharing writing examples and writing templates. Most of the digital tools were used by students independently, with more traditional texts used for guided reading sessions with learners. Students also used online games to practice vocabulary skills, to read articles and answer related comprehension questions on the ReadWorks website (Readworks, 2023).

Linda's text choices for literacy instruction were almost all TKI Instructional Series texts, Junior Journals, School Journals and Connected Series. She used a mixture of hard-copy, PDF, Google Slides, and audio versions of these texts all sourced from the TKI website. For independent reading, students also had the option of reading from the EPIC website. Students in Linda's class engaged with the StepsWeb (Stepsweb, 2023) online lessons, engaging in lessons and activities to build their literacy skills.

Marta's interview revealed more examples of 21st-century literacy than what was found in the planning that was shared. The focus of the literacy planning was Chapter Chat a whole-class

novel study (Chapter Chat, 2023). Other traditional text choices include School Journals and picture books. In terms of 21st-century literacy text choices, Marta included GAFE tools like Google Slides and Docs. These were used as texts, lessons and for students to publish writing with. The quiz website Kahoot (Kahoot!, 2023) was used as a teaching tool alongside the novel study as a way for students to take and create quizzes related to the plot and setting of the story.

The amount of 21st-century text types differs greatly between classrooms. All participants selected School Journals and Connected Series as texts for literacy learning, and all participants used Google tools as either texts, lesson sequences or for publishing writing.

Critical Literacy and Analysis

No evidence of critical literacy or critical analysis of texts was found in three out of four participants' planning. Participants discussed the importance of teaching students to find credible sources and research skills. All participants discussed using digital technology for research, either finding more information after reading a book, in other curriculum areas or for finding information to use in writing factual pieces of text.

"But with that comes all that critical thinking. Guys, you're not taking the first thing. You need to cross-check it and check three. See if it sounds the same. What's the source? These guys [the students] will cut and paste. They just cut and paste. They don't think about what they put in there." (Marta, Semi-structured interview)

The one participant who did plan for critical literacy, Tim, included lessons on fake news, author purpose and bias in the literacy plan shared. Figure 6 is an example of a lesson about identifying credible news sources. This lesson uses an online lesson created by Your News Bulletin (Your News Bulletin, 2023), part of a Netsafe New Zealand campaign to teach people to be safer online. It finishes with Google's Reality River (Interland, 2023) game that tells students, "Don't fall

for fake.” This lesson’s use of online texts and games helps reinforce the need for students to be careful about what they read and share online, and the need to critically analyse everything they read.

Figure 6

Example of critical literacy planning

Lesson 1 - L4 WALT: *Develop our questioning skill in order to identify credible news sources*

WRITING INTEGRATION: *Article Writing, Information Reports, Research*

Topic(s): *Fake News*

-Introduce WALT to students, as them if they’ve heard about ‘fake news’, what is it, where do you find it?

-Explain that fake news can contain the following, introduce words such as ‘satire’ (use of humour to criticise people’s stupidity), ‘clickbait’, ‘propaganda’, ‘advertisement’, ‘unconscious bias’

-Take students through the first example in <https://yournewsbulletin.co.nz/trainer/>, use it as an example to discuss those three key words. After reading, list the critical questions (trying to find issues, poking holes), students have regards to the article.

-Follow up: students play Google’s game which helps them spot phishing and fake news.

These lessons were found in Tim's long-term literacy planning, but no example of any critical literacy teaching or learning was found in the weekly plans that were shared. Nor were any other examples found.

Multimodal communication

The multimodal aspect of 21st-century literacies occurs when students use their new learning and skills to share their knowledge creatively using a variety of modes. Minimal evidence of multimodal communication was found in the participants’ planning. Like the critical literacy findings above, participants spoke of students creating multimodal texts, but no evidence was found during the planning analysis. While multimodal digital tools were used in reading and writing, they were

used for the teaching and learning process, for students to read and consume rather than create with, for example, students reading School Journal and Connected Series texts through Google Slides in Linda's classroom, or Tim's students listening to a podcast during reading time.

Linda and Tim both used Google Docs as writing templates for students to type their writing onto. Tim, to guide the writing process and structure and Linda, as a way to present acrostic poems. These are examples of using digital technology in the writing process but not examples of creating multimodal texts as they simply substitute traditional for digital tools. Using digital tools during writing can be a way to increase motivation, but unless more than one semiotic system is being engaged, it is not a multimodal text.

In Linda's interview, she discussed the use of multimodal communication in Religious Education. She described how students created informative presentations using Google Slides, including text, images, and video to create a multimodal presentation to share with their classmates. Students collaborated in small groups to create these multimodal texts for their audience, engaging the audio, visual and linguistic semiotic systems using a digital tool. This cross-curricular activity incorporated elements of 21st-century literacy (digital, critical and multiliteracies), yet there was no evidence of this in the literacy planning that was shared.

Marta's interview also yielded evidence of multimodal communication being used in her classroom. She discussed the use of green screens to enable students to create small videos and lessons for students to create stop-motion story videos. These activities were used for students to respond to texts they had read. No evidence was found of these lessons in the literacy planning that was shared.

Social and Cultural Contexts

Two participants' planning had some evidence of social and cultural contexts used in a literacy context. Both contexts, New Zealand History and Culture, were planning decisions made at a school-wide level.

In Tim's planning the schoolwide topic of New Zealand History was linked to his writing programme. Students were asked to write narratives based on their new knowledge of New Zealand history using family artifacts and heirlooms and Jane Campion's New Zealand-based movie, *The Piano* (Campion, 1993), as a prompt. In Tim's long-term planning, some evidence was found of other social and cultural contexts like Chinese migrants during New Zealand's gold rush when writing information reports and finding information in a text for reading as well as immigration stories as part of a poetry unit. These examples however were part of a larger whole year plan that Tim shared and were not found in his weekly literacy planning. Karen's writing planning was also somewhat dictated by the school-wide concept of Culture. As part of the teaching and learning, Karen's students were learning to write explanations, using their own culture as a prompt. Part of this included students using the internet to research information about their culture to help write the explanations. The reading programme text choices for the small ability groups did not reflect the Culture topic, however, in her reading planning was a plan for a film study of Witi Ihimarea written, Nick Caro directed *Whale Rider* (Caro, 2002) movie that explored the setting, plot, and themes of the movie as well as some visual and audio film techniques. The students' responses to this text were through art and/or drama. This is an example of using a text grounded in New Zealand culture, exploring audio and visual semiotic systems, and allowing students to respond in creative ways. Marta's literacy programme included some elements of the MITEY mental health programme, incorporating some learning about the diversity of people at school and in society. Through her oral language programme, Marta included some vocabulary building based on the Mitey programme. Linda's reading and writing programmes were also linked to the schoolwide topic of the Commonwealth Games, with students reading and writing about sports, athletes, and the

Commonwealth Games. There was no element of social or cultural contexts in the literacy programme. These examples were the only evidence found of teachers incorporating social and cultural contexts into literacy programmes.

Findings conclusion

In part one of this chapter, the themes that were revealed during the analysis stage of the study were outlined. The six themes outlined gave us an understanding of how New Zealand teachers feel about 21st-century literacies and what they believe is important for teaching and learning literacy to Year 5 and 6 students.

All participants held a unanimous belief that 21st-century literacies were of paramount importance in today's literacy landscape. They underscored the critical role these literacies play in fostering future-focused teaching and equipping students with the skills they need to play a part in society. While participants acknowledged the significance of 21st-century literacies, their teaching strategies and use of resources varied. Some incorporated digital tools like YouTube videos, podcasts, and GAFE tools, emphasizing the need for authentic and engaging learning. Through discussion, challenges to the implementation of 21st-century literacies arose, with time, budget, and student behaviour as three main barriers.

Part two of this chapter presented the findings from the planning document analysis, highlighting how participants incorporated the six elements of a 21st-century literacy programme into their classrooms. The findings reveal a diverse landscape of literacy instruction approaches among the participants. Foundational skills and strategies were a clear focus with an emphasis on reading and writing skills using ability grouping. Traditional, hard-copy texts were prevalent, with varied use of multimodal and digital text types. Digital tools and online resources played a role in some classrooms as a teaching and learning tool, with all participants utilising GAFE tools like Google Docs and Slides in their reading and writing programmes. One participant had links to critical literacy

in their planning. While multimodal communication and the creation of texts were mentioned, no links to these were found in planning. Social and cultural contexts were integrated into instruction in a limited manner, often influenced by schoolwide concepts. As seen in the Interview themes in part one of these findings, participants believed that incorporating multimodal into literacy teaching was important and examples were given during discussion but when planning documents were analysed, little multimodality was explicitly planned for. A pattern that emerged when critically exploring all sources of evidence highlighted that some participant espoused their use of digital tools and strategies, but this was not found in their planning.

The evidence gathered from both the interviews and the planning analysis provides a comprehensive view of the literacy practices employed by the participants. In their interviews, educators frequently mentioned using various digital tools such as Google Docs and Google Slides to facilitate learning. They also discussed incorporating online resources like Readworks Article a Day, RNZ podcasts, YouTube videos, TKI links in planning, and the IDEAL platform. These tools were found in both the interview and planning data.

Some practices, though discussed in interviews, were not explicitly reflected in their planning documents, such as drama activities as responses to text, TED talks, green screen techniques for creating movies and documentaries, stop motion for text creation, teaching students to effectively utilize online search tools, and using Google Classroom. Conversely, the planning analysis revealed additional practices, like film studies, exemplars of writing and writing templates shared on Google Docs that were not extensively discussed during the interviews.

However, certain 21st-century literacy practices, such as creating eBooks, developing educational games, and exploring critical literacy by examining points of view and author's purpose within texts, as well as students actively creating and sharing texts in various forms, remained largely absent from both the interview and planning data. Table 4 shows the 21st-century literacy tools and

strategies present in both interview and planning contrasted with evidence in the interviews but not found in the planning.

Table 4

21st-century literacy links between the interview and the planning analysis - examples of practice

Evidence in the interview and in the planning analysis	Evidence in the interview but not in planning analysis
<ul style="list-style-type: none"> • Google Docs • Google Slides • Readworks: Article a Day • RNZ podcasts • YouTube videos • TKI links in planning • IDEAL platform 	<ul style="list-style-type: none"> • Drama activities as response to text • TED talks • Green screen for movies and documentaries • Stop motion creation of text. • Creating Multimodal Google Slide presentations • Teaching students to use online search tools. • Google Classroom • Retelling a story with a comic book or mini book • Hector’s world • Using Flip.com website for students to record oral responses
Evidence in planning analysis but not in the interview	No evidence in interview or in the planning analysis
<ul style="list-style-type: none"> • Film study - Whale Rider Exemplars of writing shared on Google Docs • Writing templates on Google Docs 	<ul style="list-style-type: none"> • Creating eBooks • Creating games to share learning. • Examining points of view and author’s purpose within texts (Critical literacy) • Students creating and sharing texts (multiliteracies)

This chapter has presented the findings around 21st-century literacies planned for by Year 5 and 6 teachers, highlighting their recognition of the importance and the variety teaching tools, texts and strategies used. The analysis of planning documents reveals diverse approaches, with a focus on foundational skills and limited inclusion of multimodal communication. Certain 21st-century literacy practices were largely unaddressed in both sources. The upcoming discussion chapter will explore

how these findings complement and contribute to the existing literature on 21st-century literacies in education.

Discussion

Introduction

This chapter's purpose is to discuss the findings described in the previous chapter, which aims to answer the research question *How do Year 5 to 8 teachers in New Zealand plan for and teach 21st-century literacies?* And the subsidiary questions: *What do the participants think 21st-century literacies are and do they think they are important? What 21st-century literacies do participants plan to use in their classroom? And what barriers do participants perceive when attempting to plan and teach 21st-century literacies?* To answer these questions, the discussion is divided into several parts based on the themes constructed during the analysis stage of the study. This first part is a summary of the literature review and methodology chapters, followed by a summary of the key findings. The key themes from the findings are then discussed in relation to relevant literature and concluded with practical implications for upper primary school (Year 5 to 8) teachers.

The literature review explored the multi-faceted nature of literacy in the 21st-century and through the exploration of a variety of literacies, 21st-century literacy was defined. In order to teach 21st-century literacy, teachers need to include digital literacy, multiliteracies and critical literacies in their reading and writing programmes.

21st-century literacy is a multiliterate approach to reading and writing pedagogy that incorporates digital technology, critical thinking, and leverages students' semiotic systems - audio, gestural, linguistic, spatial, and visual. These type of literacy experiences aim to equip students with the skills needed to traverse the 21st-century literacy landscape; a world of changing communication styles, media-rich environments, and a growing range of social media applications. Students must learn to be confident and able consumers and creators within these environments to enable them to live, work and communicate in our society today and in the future.

The qualitative research designed to answer the research question was underpinned by an interpretivist paradigm informed by social constructivism and grounded theory allowing the research

to explore the teaching and learning process from the perspective of the participants. Through this, it is understood that knowledge is subjective and open to interpretation (Denzin & Lincoln, 2011; Yin, 2014). The participants of the study were teachers in upper primary classrooms in New Zealand. All ethical considerations were addressed when selecting, interviewing, and collecting the data which came in the form of semi-structured interviews and investigating planning documentation. Data analysis was carried out using the six stages of thematic analysis put forward by Braun and Clarke (2006), with initial codes turned into themes that were defined and supported through quotes from the interview transcripts and examples within the planning documents. This provided insight into the teaching and planning of 21st-century literacies.

Summary of Key Findings

The findings were developed in two halves. The first was a set of six themes developed through analysis of the semi-structured interviews. These themes give insight into how Year 5-8 teachers perceive and plan for 21st-century literacy.

- *Teachers believed that 21st-century literacies are important.*
- *The range of 21st-century literacies students were engaged in differed greatly between classrooms.*
- *Participants used a variety of tools to enable 21st-century literacies.*
- *Participants carried misconceptions about 21st-century literacies.*
- *21st-century literacy opportunities happened across the curriculum.*
- *First and second order barriers prevented implementation of 21st-century literacies.*

Alongside these themes was the analysis of participants' literacy planning. Planning was analysed through a 21st-century literacy framework for teaching and learning that was created through a synthesis of three literacy frameworks (Coiro, 2020; Freebody & Luke, 1990; Green, 1997).

The planning analysis showed that participants relied heavily on traditional literacy strategies and text choice, with some integration of digital and multimodal learning experiences. It also highlighted that the 21st-century literacy tools used were mostly being used as a substitution for hard copy worksheets or templates. Tools like online literacy games and GAFE were used across all participants' classrooms.

Discussion of themes

This section outlines the key themes from the data analysis and discusses the themes and findings from the analysis of the semi-structured interview and planning analysis data, with added discussion, literature and relevance to literacy teaching and learning in Year 5 to 8 classrooms.

Discussion of Theme 1: Teachers believe that 21st-century literacies are important.

This theme suggests that educators recognize the significance of teaching skills beyond traditional reading and writing. 21st-century literacies encompass digital, media, information, and critical thinking skills, which are essential in today's interconnected world. The data suggests that Year 5 to 8 teachers in New Zealand believed that teaching students 21st-century literacy skills is important and worthwhile. The findings within this theme were consistent with the literature around 21st-century literacies which describes student-centred methods that enable students to use a range of tools and strategies to participate in a digital, global society (Jenkins, 2006, Simmons, 2008).

As teachers in New Zealand, participants echoed the sentiments of the New Zealand Ministry of Education, especially the need for students to make meaning in a technology-rich world (Jones, 2009). Marta mentioned in her interview that the future for current students is unknown and by incorporating 21st-century literacy skills teachers can prepare students to be able to adapt to

whatever society may look like. By allowing students to learn digital and critical literacy skills teachers can help them be confident in navigating the uncertain world of the future (Burnett & Merchant, 2019).

While participants spoke about the necessity of teaching 21st-century literacy skills to students, their planning did not always reflect this. All reading programmes analysed used hard copy texts as the predominant reading material used by students, with some participants occasionally using those same texts but as a Google Slides presentation or a PDF copy. These plans focussed on written language semiotic systems, almost exclusively. Where digital tools were employed, these were used for ease of sharing and organisation within the classroom, rather than a deliberate choice to enable multiliteracies, critical literacies or digital engagement. The same was found within the writing programmes of participants. Google Docs were used as a way to draft and publish writing, but not shared with others in any way.

Although there is a generally positive view towards 21st-century literacies, it is clear there is an element of unease around whether they are as important as teaching the basics of literacy. This is a tension that teachers face when planning for literacy instruction. The positive view of 21st-century literacy and its importance for students' lives is underscored by factors outside their control. Factors like the discourse around what is important for students to learn in literacy, Ministry of Education guidance and the high-stress environment of teaching, assessing, and reporting that teachers face. The definition of literacy still stands as the ability to read and write (Collins, 2023). There has been a long tradition of book and print media use as reading material, as well as a tradition in New Zealand classrooms for reading instruction to occur in small ability groups for at least three 30-minute sessions. Research into New Zealand reading interventions suggests that this, long-held way of doing things is problematic and a more complex approach focussing on understanding texts is more associated with accelerated gains in reading comprehension (McNaughton, 2012).

The tension between the shift to a higher order, multi-modal and critical engagement in literacy sat in apparent tensions with discourses of basics, and foundational or functional literacy. This tension has been identified by Cope and Kalantzis (2009), who argue against a basics first approach, explaining that students will encounter immensely complex systems when playing games like Pokémon without being instructed by a teacher. 21st-century literacy, which encompasses multiliteracies, opens students to a broader range of knowledge processes and powerful learning where their diversity, culture and social lives are more important. This allows for more engagement and a range of experiences that only teaching the 'basics' cannot provide (Cope & Kalantzis, 2009). A procedural, 'basics' approach to literacy won't help students to become 21st-century literate, as McNaughton (2020) states, students who engaged more frequently in critical thinking discussions with teachers, had more accelerated success in writing.

The data analysis suggests that there is a need to bridge the gap between the theory and practice of 21st-century literacies with clear policy direction. The teachers in this study believed that it is important to develop 21st-century literacy skills in students. The theory and 'why' of 21st-century literacies were evident, but the practice or 'how' to do 21st-century literacy was often missing or misunderstood. Arguably, when the education our students experience does not keep pace with technological and societal change, this operates as a disservice to students. As McDowall (2010) writes, "Expanding our concept of literacy does not mean rejecting more traditional approaches to literacy teaching and learning or neglecting reading and writing skills" (p. 8). McDowall goes on to explain that literacy teaching and learning needs to change to meet the demands of the 21st century.

Students now need skills to deal with multimodal texts, such as audio and moving images. Learning frameworks such as Luke and Freebody's (1990) Four Resources Model, Green's 3D Model of literacy (Green & Beavis, 2013) or the 21st-century literacy framework developed through the course of this study, have been advocated by researchers, to bridge theory and practice,

implementing 21st-century literacies into classroom programmes and equipping students with skills, including written literacies, to thrive in tomorrow's world.

Discussion of Theme 2: The amount of 21st-century literacy teaching and learning differed greatly between classrooms.

This theme highlighted the variability in how teachers integrated 21st-century literacies into their curriculum. Some teachers may prioritize these skills and incorporate them into various subjects, while others may not emphasize them as much, or at all. This variability highlights the role of policy needed to develop a clear stance on the role of 21st-century literacies as current literacy policies are unclear on details around literacies for the 21st century. Ministry of Education (2006) literacy guidance mentions communication tools such as “emerging patterns of electronic communication” (p. 18), as well as a section on critical thinking in the literacy framework. However, there is not enough mention of multiliteracies, digital literacy or critical literacy to fully inform teachers' use of 21st-century literacies in their reading and writing instructional programmes. McNaughton (2020) suggests that “greater impact on equity and excellence would follow from considerably more time spent reading and writing across a range of text types, both in and out of school, and in digital contexts” (p. 45). For example, the three other literacy models explored when reviewing the literature contained elements of digital literacy, multiliteracies or critical literacy. These elements are essential to a 21st-century literacy programme. Their absence from the Ministry of Education's main literacy guidance this has meant that New Zealand teachers place different levels of importance on teaching 21st-century literacies, leading to some teachers integrating 21st-century literacy throughout their literacy programme, to some incorporating none at all. In this study, all participants' literacy programmes were run in a similar way, consistent with Ministry of Education literature, namely using approaches and strategies found in the Effective Literacy Practice books (Ministry of Education, 2003). This official guidance from the Ministry does not provide a clear

picture of how to effectively teach reading and writing to students, leading to a range of different teaching styles (McNaughton, 2020; Ministry of Education, 2003). With little mention of 21st-century literacies, current literacy guidance doesn't support educators to incorporate digital, critical and multiliteracies in New Zealand classrooms.

This variability between classrooms cannot be attributed to just one issue. While there is an element of individual teachers having different strengths, weaknesses and capabilities that can influence their teaching style, there are many exterior forces and processes that affect how teachers organise their literacy programmes. These forces and processes affect all teachers in New Zealand and pressure teachers into instructing students in particular ways. One example of this is the rise of social media, which has moved students, and all of us, towards a bite-sized view of reading and writing, causing people to chat informally more, resulting in a rise of surface-level reading and writing rather than a deep, complex understanding of how to read, understand and craft texts (Wolf, 2018). Teachers have no control over students' use of social media and online communications after school, however, studies have shown that making literacy instruction more ubiquitous and incorporating home use of digital technology and communication with a strong school-based programme can increase students' writing and reading achievement (Jesson et al., 2018; Wong, 2019).

Another example of the effect of outside forces on classroom practice was the introduction of National Standards in 2010. National standards aimed to set specific achievement targets for students in reading, writing and maths, which brought high-stakes literacy testing (reading and writing) into New Zealand schools which can narrow the curriculum, focusing teachers on getting students to expected literacy levels at the expense of more challenging and complex curricula (Thrupp, 2017). After a change in government in 2018, National Standards were abolished. This then made the curriculum more flexible and gave teachers more autonomy. These political and government-level changes can affect our education system, influencing the way school, classrooms

and teachers operate, impacting on student outcomes. The regular moving of goalposts and change of policy can be unhelpful for teachers trying to implement strong literacy programmes in their classrooms.

These outside forces on teachers, policy, and Ministry guidelines, along with the myriad of resources available in schools, both digital and more traditional, can account for the variability of literacy instruction found in New Zealand classrooms. This coheres with the findings of this study and indicates that clearer guidance is needed to gain more consistency around literacy instruction. Thus, variability is likely in an area of swift change, where teaching programmes may be changing at pace with research, or alternatively, at pace with policy documents.

Recommendations to reduce variability between classrooms already exist. McNaughton (2020) recommends that educators and leaders could take on board to improve literacy outcomes for learners and bring reading and writing into the 21st-century. His Year 4 to 8 recommendations, in line with this study's findings, argue for more critical literacy to be taught to Year 5 to 8 students. Critical reasoning, access to digital platforms, with instruction utilising both traditional and digital text resources that are relevant to the social and cultural contexts of New Zealand learners are improvements to literacy programmes that educators can help students find success in reading and writing and help decrease variability across classrooms.

Another example of research into reducing variability between classrooms is Hattie's (2010) research into teacher excellence that teachers account for 30% of a student's variance of achievement. What the teacher does, matters, therefore school leaders need to give teachers the skills to put their positive beliefs and theory around 21st-century learning into practice. Frameworks like the one created during the analysis stage of this study can help teachers analyse their literacy programme and adjust as necessary to bring teaching and learning into the 21st century. If all teachers were to utilise such a framework, the disparity between classrooms could be reduced. As mentioned in the literature review, today's students are not the people that the educational system

was set up to teach (Prensky, 2001) and teachers need tools to enable them to help today's students succeed.

Discussion of Theme 3: Participants used a variety of tools that enabled 21st-century literacy.

As the data suggests, participants have a variety of tools at their disposal that enable them to include 21st-century literacies. The many roles and responsibilities of teachers today leave little time for exploration into 21st-century tools and strategies, this being a potential barrier to implementing 21st-century literacy approaches in classrooms. The discussion of this theme is split between the three core 21st-century literacies, multiliteracies, digital literacy and critical literacy.

Multiliteracies tools used to enable 21st-century literacy.

Teaching and learning in this aspect centres around students making choices about the text types, semiotic systems, and modes they could use to share and present information or their writing. Encompassing mainly digital literacy and multiliteracies, multimodal communication is about getting students to be creators of text, not just consumers. Within this definition, there is a shift towards digital and multimodal communication. Teachers actively engage with audio, visual and linguistic semiotic systems. However, it is imperative for educators to broaden this spectrum by incorporating the remaining two semiotic systems: gestural and spatial as found in repeated studies, namely Drewry's (2017) study into multimodal learning boosting engagement and Towndrow and Pereira's (2018) research that into engaging students' semiotic systems to make meaning of the text and engage in deeper learning. The written word alone falls short of equipping students with the requisite skills for thriving in contemporary workplaces that accentuate creativity, self-management, and adaptability, as outlined by Cope and Kalantzis (2009).

The analytical framework applied to participants' planning documents encompasses two facets of multiliteracies: using multiple modes and media and multimodal communication. These facets are intrinsically linked as they expose students to a diverse array of text types and media, aiding them in the process of extracting meaning from these varied sources in different contexts. This approach also nurtures students to harness these same modes to effectively communicate their own ideas and narratives. The range of text types envisioned by participants encompasses modern formats such as YouTube videos, PDFs, podcasts, and websites, alongside more traditional hardcopy readers. Research like Anstey and Bull's (2010) findings can help teachers to explore and utilise these 21st-century text types, meaning that teachers need to explicitly teach with these text types to support students to read and write with them independently. This paradigm shift in teaching and learning seeks to elevate the discourse beyond teachers to focus on the profound ideas and implications of multiliteracies for 21st-century literacy.

Critical Literacy Tools Used to Enable 21st-Century Literacy

Critical literacy is a key component of 21st-century literacy, yet the analysis of data suggests that an understanding of this vital concept remains elusive to many New Zealand educators.

To fully do justice to teaching critical literacy, teachers need diverse texts that reflect a range of perspectives, cultures, and social contexts. A collection of these texts used in classroom literacy programmes would foster the development of critical thinking and build a capacity for analysis, within and across different texts (Janks, 2009). Rather than intentionally curate texts for deeper analysis by students, teacher planning appears to be more predicated on the alignment with students' reading levels and school curriculum topics. The prevalence of digital devices and the ubiquitous nature of social media in society underscores the urgency of equipping students with critical literacy strategies to navigate these domains effectively. This is supported by Janks' (2009) suggestions that critical literacy is an important skill to support students to consume the variety of

text types that the rise of social media and digital communication offers. Alongside this, Lankshear and Knobel (2006) state that to enable students to become confident members of society we need to teach them critical literacy skills.

Absent from participants' planning was the teaching of skills to help students discern information and search effectively when using online search engines. A Common Sense Media (2019) study found that the inability to critically evaluate online information was the top tech concern among teachers, with 35% reporting it was a frequent problem for students, yet fewer than 40% of educators regularly teach this skill in their classrooms. The Ministry of Education's (2020) own study into the use of digital technology in schools revealed that 92% of Year 8 students reported that their school devices were mainly used to search for information. The prevalence of using digital technology to search for information online underscores a pressing call for adjustments to literacy teaching to align with these contemporary information-seeking methods. The absence of these opportunities signals a broader challenge of integrating these 21st-century literacy skills into classroom programmes. The two studies above highlight that students are using digital technology at school in increasing levels, yet they are not being taught the skills needed to do so effectively. More critical literacy teaching and learning opportunities need to occur in New Zealand classrooms (McNaughton, 2020), to support teachers to teach students to critically evaluate online sources and to participate in online communities like social media effectively (OECD, 2016).

Digital literacy tools used to enable 21st-century literacy were often used for substitution.

The data suggests that participants were comfortable using a range of digital and online tools to enhance literacy learning, however these tools were more often than not being substituted for traditional tools. According to Puentedura (2016), substituting a digital tool for a traditional one does not encapsulate the essence of 21st-century learning. While this substitution marks an initial foray into the utilisation of digital tools and technology for literacy instruction, true transformation

requires that teachers and students engage in multimodal practices, leveraging their knowledge and skills to craft and share their own texts. OECD (2016) studies suggest that teachers are the key element in linking digital technologies with students and learning therefore they need a tool to enable true digital literacy to happen in literacy programmes. Table 5 (3P Learning, 2020; EmergingEdTech, 2015; Puentedura, 2016) emphasises how the SAMR model can be used in a 21st-century literacy programme, with illustrative examples of how teachers might enhance reading and writing activities in their classrooms.

When the SAMR model is applied to the digital tools that were discussed by or planned for by participants, it is evident that the tools being used are being used at the Substitution or Augmentation stages. For example, when students are listening to a podcast, they are effectively immersed in informative content, yet this practice constitutes a direct substitution of non-fiction hard copy texts. Similarly, the use of Google Docs for writing activities merely involves the replacement of conventional paper and pen with a digital word processor.

It is evident that New Zealand classrooms are making strides in integrating digital tools, but there exists an opportunity to propel these initiatives toward the Modification and Redefinition stages of the SAMR model (Puentedura, 2016). This progression aligns with the broader mission of preparing students for the multifaceted challenges and opportunities presented by the digital era.

Table 5

The SAMR Model with examples for reading and writing classrooms activities.

The SAMR Model		Definition	Reading examples	Writing examples
<p>Transformation:</p> <p>The modification and redefinition stages allow for learning to be transformed by technology.</p>	<p>Redefinition</p>	<p>Technology allows for the creation of new tasks, previously inconceivable.</p>	<p>Students use online concept mapping tools to share their learning and reflections on a topic through images, links, and text</p>	<p>Students collaboratively write, edit, and create a documentary sharing their learning or stories.</p>
	<p>Modification</p>	<p>Technology allows for significant task redesign.</p>	<p>Students record their responses to a text on a tool like Flip.com, then watch other people’s responses and comment on them.</p>	<p>Students share learning by creating a Google Slides presentation with video links, images, and text.</p>
<p>Enhancement:</p> <p>The substitution and augmentation stages enhance learning using technology but don’t alter the learning significantly.</p>	<p>Augmentation</p>	<p>Technology acts as a direct substitute, with functional improvement</p>	<p>Students use an online learning programme like Reading Eggs or IXL to practice reading skills. Traditional practice is replaced by an online tool, but students can track their progress and come back to activities.</p>	<p>Students watch a YouTube video to learn a writing skill - the video is substituted for the teacher but can be watched by students when they need it.</p>
	<p>Substitution</p>	<p>Technology acts as a direct substitute, with no functional change.</p>	<p>Researching information online - substituting a non-fiction book for a search engine.</p>	<p>Students type their writing into a word processor instead of writing it by hand in their book.</p>

Tools Used to enable 21st-century literacy summary.

To truly establish a 21st-century learning framework, it is imperative to move into the latter stages of the SAMR model, where literacy programmes will truly integrate digital literacy, critical literacy and multiliteracies as Jenkins (2006) reports, “participants in the new media landscape learn to navigate these different and sometimes conflicting modes of representation and to make meaningful choices about the best ways to express their ideas” (p. 47). As the participants in this study used digital tools like Google Docs to plan collaboratively and add links to multimodal texts for students to consume, literacy instruction needs to harness digital tools (Kereluik et al., 2013), foster critical literacy, and encourage a multimodal approach and understanding of text and media sources.

Common Sense Media’s (2019) research into digital tools revealed that many digital resources purchased by schools go unused due to a lack of professional learning, relevance, or effectiveness. The sheer number of tools available to educators means school leaders and educators need the means to analyse the effectiveness and purpose of tools to enable 21st-century literacy. Frameworks like the SAMR model (Puentedura, 2016) and Coiro’s (2010) online reading heuristic give teachers a way to guide students towards more innovative work with 21st-century literacies. Specifically for the New Zealand context, the Ministry of Education’s (2014) eLearning Planning Framework is a tool that can be used to evaluate the effectiveness of digital tools, with rubrics and indicators to judge the effectiveness and efficacy of digital learning tools, professional learning, and programmes.

Repeated studies suggest that the transformation from passive information consumers to active creators and innovators can only be realised when digital, critical and multiliteracies are woven into the fabric of these activities (Jenkins et al., 2008; Metiri Group, 2003; Sandretto & Tilson, 2015; Vasquez, 2018). This transformation aligns with the Ministry of Education’s (2007) own aspirations for New Zealand learners to be confident, connected, actively involved, lifelong learners.

Discussion of Theme 4: Participants carried misconceptions about 21st-century literacies.

This theme indicates that there might be misunderstandings or misconceptions among teachers regarding the definition of 21st-century literacies, encompassing multiliteracies, critical literacy and digital literacy. In today's educational landscape, these literacies are pivotal for students to thrive in an interconnected and technology-driven world.

Participants' misconceptions around digital literacy

Participants had misconceptions about what digital literacy entails. The interview data suggests that teachers tended to equate the use of digital technology with digital literacy. Digital literacy centres around teaching students to find, use and evaluate digital content to help young people be confident in navigating the online world (Burnett & Merchant, 2019; Jenkins, 2006; National Library of New Zealand, 2023). Therefore, teachers and students should not just use digital tools, but explore their use to create new texts, read texts online, and recognise the power that technology must transform learning. Digital literacy is more than students using a device. It involves teaching students to evaluate online sources and communicate ideas through a range of media and online tools (Burnett & Merchant, 2019). Students participating in digital literacy lessons will engage in digital storytelling, locating information online for research purposes and will be aware of what it means to be a digital citizen, having participated in digital citizenship lessons (Coiro, 2010; Jenkins, 2006; Simmons, 2018). This misconception, that using a device is the same as digital literacy will not teach them the skills needed at higher levels of education when asked to critically analyse online information sources and text. Based on the definition of Burnett and Merchant (2019), simply using a Chromebook or an iPad is not 21st-century literacy. Playing a vocabulary game on the floor with a board game is the same as playing an online vocabulary game.

As the data suggests, participants' digital literacy lessons focussed mainly on helping students research information using online search engines, publishing writing on Google Docs,

creating presentations on Google Slides or using online games to practice literacy skills. These tools improve engagement, enthusiasm, and participation in students (Gunter & Kenny, 2008), but do not constitute digital literacy instruction. This is a problem faced by many teachers in New Zealand and it appears that there is “a lack of guidance for explicit teaching of literacy skills in digital contexts” (Ministry of Education, 2020, p. 8) in New Zealand schools. This is highlighted by the fact that 73% of Year 4 and 92% of Year 8 students reported that their devices were mainly being used to search for information (Ministry of Education, 2020). Going further, students need these digital literacy skills to be savvy users of technology in this age of fake news and skewed information coming at them from social media and other online sources (Newton, 2018).

Misconceptions around multiliteracy

Multiliteracy learning helps students begin creating and consuming a variety of text types and modes. Literacy needs to be much more than just reading and writing the national language of a country (Mills, 2006). One prevailing misunderstanding is between multiliteracies and Multiple Intelligences theory which asserts that all learners have a specific type of learning, e.g., kinaesthetic or interpersonal (Gardner, 2006). The misconception possibly arises from the terms including the word ‘multiple’ in their name but where multiple intelligences relate to the various cognitive strengths a student may have. Multiliteracies is how students understand, interact, and create with diverse forms of text. The data analysis suggests that teachers provide a range of text types for students to read, but there was a limited emphasis on cultivating students’ abilities as creators. This is also highlighted by the minimal inclusion of the semiotic systems across teachers’ planning.

Participants’ misconceptions around critical literacy

Critical literacy is an approach that goes deeper than basic literacy skills or meaning-making strategies. It focuses on developing a deeper understanding of how language is used to convey

meaning and influence perspectives. Among other things, it involves teaching students that no text is neutral, and how to recognise bias, analyse points of view, and examine author's purpose (Sandretto, 2011). Some educators may hesitate to introduce critical literacy in classroom programmes due to concerns about students' comprehension levels. Sandretto's (2006) research shows clearly how critical literacy strategies can be integrated into the already existing practices within a literacy programme through text selection, questioning techniques and teaching the metalanguage around critical literacy.

A misunderstanding between critical literacy and critical thinking was also discernible through the analysis of data. Critical thinking is a set of strategies to help students reason, analyse, evaluate, and create and has its place in literacy instruction and it can be found throughout the New Zealand Curriculum (Ministry of Education, 2007), however Knobel and Healy (1998) define critical literacy as "the analysis and critique of relationships among language, power, social groups and social practices" (p. 8). Whereas critical thinking can be applied to any subject area, critical literacy is concerned with helping students empower themselves through the examination of language and its power to shape our world.

Teachers' views around 21st-century literacies are not surprising considering the lack of guidance around critical literacy in New Zealand educational materials, set out by the Ministry of Education. Yet, there are resources to be found and used to help teachers incorporate critical literacy into their literacy programmes. Sandretto's (2011) critical literacy work is a New Zealand-based resource that can assist teachers in embedding critical literacy into their classrooms. Her book *Planting Seeds* (2011) has a range of resources to support teachers. With assessment ideas, examples of planning and case studies, this book aims to develop critical literacy strategies across all content areas, not just literacy (Sandretto, 2011). Another resource based on New Zealand contexts is Tilson and Sandretto's (2015) guide to integrating critical multiliteracies using the Four Resources Model. More of a professional development guide, this book combines multiliteracies and critical

literacies, including Luke and Freebody's (1991) Four Resources Model, to support teachers in bringing 21st-century literacies to life in New Zealand classrooms. This resource also supplies videos of teachers modelling each of the four resources in the classroom at different year levels, showing clearly that 21st-century literacies can be developed and used at any stage in a student's school journey.

Misconceptions summary

The data underscores the urgent need for a paradigm shift in literacy education, where the 'what' and 'how' of 21st-century literacy are redefined. If the threefold definition of 21st-century literacy discussed throughout this study was clearly understood, teachers would get a sense that 21st-century literacy instruction would include digital tools being used across multiple semiotic systems to foster critical engagement with the text. The framework, developed and shared in the contribution section of this chapter, takes a step towards this, providing teachers with a clear understanding of 21st-century literacy and related classroom practices.

The incorporation of digital literacy, critical literacy, and multiliteracies into the curriculum must be comprehensive, transcending individual teacher practices and receiving clear guidance from educational authorities. As students are already adept at using digital tools for personal purposes, a systematic framework is essential to equip them with the skills to navigate, an increasingly digital world. In the absence of such guidance, the inconsistencies in the education system may hinder students from becoming digitally literate. Clear guidelines and a unified framework are pivotal to bringing literacy instruction into the 21st century, enabling students to engage effectively in their communities and foster digital, critical, and multiliteracies (Jenkins, 2006; Ministry of Education, 2020).

Discussion of Theme 5: 21st-century literacy opportunities happen across the curriculum.

In general terms, curriculum integration refers to any approach that combines two or more subjects or learning areas to produce a course of study that draws on the content and processes of both learning areas (Boyd & Hipkins, 2012). The central premise is that literacy should be regarded as the gateway to accessing knowledge and learning in different subjects. The learning areas section of the current New Zealand Curriculum states that “all learning should make use of the natural connections that exist between learning areas and that link learning areas to the values and key competencies” (Ministry of Education, 2007, p. 16). Integration of literacy skills into other curriculum areas helps students make connections and makes learning more relevant and authentic (Boyd & Hipkins, 2012; Fogarty, 1991).

Young people in today’s schools are already active citizens in society. They already participate in social media and online communities, often without any preparation or learning about how to communicate effectively. By connecting students’ literacy and communication skills to different parts of the curriculum teachers can leverage 21st-century literacy to make all learning relevant for students. The implication for teachers is that a fragmented model of curriculum, where each curriculum area is a separate subject, can leave students with a fragmented view of their subject matter, not understanding the links that can be made to build deeper connections with content (Fogarty, 1991).

Fogarty (1991) goes on to say that connected and integrated curriculums can help students to apply their skills in different curriculum areas. In practice, this could look like students using their 21st-century literacy skills to create documentaries about content in other learning areas like social studies or science. To continue this example, students creating a documentary about social studies learning would combine a multitude of different skills to produce the end product. Writing a script, acting out the script, adding audio and music, selecting, and using the appropriate tools to film, edit and present the video and collaborating alongside other students all the while.

Embedding 21st-century literacies across all curriculum areas is not just an aspiration but a requisite for equipping students with the skills and competencies necessary for the complex demands of the modern world. Integration of 21st-century literacy skills and strategies can produce powerful learning experiences that enable students to apply their 21st-century literacy skills in a range of authentic and relevant contexts (International Society for Technology in Education, 2007; McDowall & Hipkins, 2019; Rotherham & Willingham, 2010), as well as enhancing outcomes and achievement for students.

Discussion of Theme 6: First and second order barriers prevented implementation of 21st-century literacies.

This theme acknowledges that there are perceived obstacles and difficulties in effectively implementing 21st-century literacies in education. Challenges may include limited resources, resistance to change, or a lack of professional development opportunities for teachers.

First-order barriers to incorporating 21st-century literacies were foremost in participants' minds when discussing the challenges (Horan, 2008). Infrastructure, budgets, and availability of devices and websites were examples of issues faced when attempting to incorporate digital device use in reading and writing programmes (Pauwels & Wong, 2019). This is consistent with research findings into teachers' perceptions of teaching online or with online tools, alongside second-order barriers like students' behaviour and beliefs about effective teaching (Makki et al., 2018; Tawfik et al., 2021).

As mentioned in the literature review, basic digital skills are essential for students and teachers alike (Kereluik et al., 2013). A key issue brought up by participants was their capacity to use digital tools in the classroom, which impacted their ability to provide digital or multiliterate learning tasks for students. A study by Kajder (2005) found that two-thirds of pre-service teachers felt under-

prepared to use technology in teaching even if they used that same technology in lesson planning and creating activities.

The data indicates that teachers did not feel that they had the skills to incorporate new technological affordances available into their classroom instruction, therefore they stuck to what they knew well. As Honan (2008) discusses, however, this is not an age issue as all teachers were comfortable using technology in their daily lives and to collaboratively plan with other teachers.

Ertmer's (1999) research into overcoming first and second-order barriers to technology integration within classrooms provides some solutions to help teachers feel more comfortable utilising digital technology allowing for more effective digital literacy practices. Allowing reluctant teachers multiple opportunities to observe other teachers using digital technology, giving space for reflection on their own use and collaborating with less confident teachers are three ways to build confidence. Also mentioned is the need for school leaders to provide a clear vision for digital technology use and to provide the necessary tools and resources, including time and training to trial and source digital and online resources.

The link between teachers' and students' personal use of technology and their use within the classroom needs to be explored. There are funds of knowledge students have around the use of digital devices and online tools (Comber and Kamler, 2004; Moll, 1992) that can be leveraged to enhance learning and incorporate 21st-century literacies within the classroom, regardless of teacher capability or efficacy. This is not to say that professional learning in 21st-century literacy practices wouldn't be beneficial, but all teachers come with funds of knowledge and can, and should, tap into them to enhance learning in their classrooms. As noted in the first theme above, teachers understand the importance of 21st-century literacies for helping students develop the skills to achieve. Research by Edwards and Bruce (2000) shows that teachers do not need to be experts in using technology to use it effectively when teaching. If teachers bring the skills they do have into the classroom, more digital literacy and multiliteracy teaching and learning may occur.

A second-order barrier was student behaviour or management of students. Teachers are concerned about students not collaborating with each other on digital tools sensibly, being inappropriate on devices, not having the comprehension level to participate in critical literacy lessons and students being disrespectful of property (school-owned devices). These issues can be addressed through teachers' rethinking their classroom management techniques. Establishing classroom practices to enable a student-led, multiliterate approach to teaching and learning, developing structures around student use and care of digital technology and developing classroom 'netiquette' would benefit teachers and allows them to feel comfortable opening their classroom to 21st-century literacy practices that may require some letting go of control over students (Tawfik et al., 2021).

Another way to solve second-order barrier issues discussed above is to provide digital citizenship lessons to help students develop strategies around cyberbullying, online security, privacy and not sharing personal information (eSafety Commissioner, 2023; Google, 2023). Students who engage in these types of lessons feel more empowered to deal with any issues that may arise when online or using digital tools (Patchin & Hinduja, 2015). They also highlight the importance of digital and media literacy to help students evaluate online sources of information. By teaching students to be digital citizens, teachers can help prepare students for the globalised world of the 21st-century. Again, this links to our definition of 21st-century literacies; for students to critically engage with digital and online texts they need the skills to do this appropriately.

Solving these challenges to 21st-century literacy implementation requires an investment from school leadership. By providing professional learning and development opportunities in the use of digital, critical and multiliteracies, by investing in infrastructure and tools and by providing a curriculum that values it, school leaders can give teachers the tools necessary to bring New Zealand classrooms into the 21st-century. The world will change regardless, and it is on teachers to reinvent

themselves and learn the skills needed to teach 21st-century learners to succeed and thrive in tomorrow's world (Merchant, 2009).

Answering the research questions

The themes developed through thematic analysis from the interview data, alongside the planning document analysis, give us the answers to the research question: *How do Year 5 to 8 teachers in New Zealand plan for and teach 21st-century literacies?* And its subsidiary questions. This section summarises and reiterates the key findings in relation to the research questions.

Subsidiary question: What do the participants think 21st-century literacies are and do they think they are important?

Participants were overwhelmingly positive about the importance of 21st-century literacies. The main points discussed by participants were the rapidly changing nature of the world, the increase of social media and technology in our lives and uncertainty about the future, which drives the need to prepare students with the skills to cope. Participants felt that 21st-century literacies, including multiliteracies, digital literacy and critical literacy were crucial elements of a literacy programme that hopes to do this. Theme one, discussed above, shows us that these sentiments held by participants are in line with the literature on the topic. Research into the field reiterates the importance of 21st-century literacies for the students of today (Anstey & Bull, 2006; Burnett & Merchant, 2019; Cope & Kalatntzis, 2009; Jenkins et al., 2006). Through deeper analysis, however, theme four indicated that participants carried misconceptions about 21st-century literacies. Misconstruing multiliteracies with multiple intelligences, digital literacy with digital technology use, and critical literacy with critical thinking are examples of misconceptions held by participants in this

study. A New Zealand Ministry of Education (2020) report on literacy explains that there is a lack of guidance around teaching literacy skills with digital technology, so some of these misconceptions may be valid as teachers have not been given the professional learning or development on integrating multiliteracies, critical literacy or digital literacy into their classrooms. The planning, analysed using a framework developed by synthesising multiple existing 21st-century literacy frameworks, reveals an absence of 21st-century literacies. There was some use of digital and online tools and text types, but participants' misconceptions and lack of understanding about how to implement 21st-century literacies meant there was no true implementation within literacy programmes.

Subsidiary question: What 21st-century literacies do participants plan to use in their classroom?

Participants used a variety of tools that enabled 21st-century literacy, this is shown through theme three and also in the planning document analysis. The findings indicate that only a small number of 21st-century tools were planned for by participants in their classroom: Google Docs, Google Slides, Readworks: Article a Day, RNZ podcasts, YouTube videos, TKI links in planning and the IDEAL (structured literacy) platform. These tools were spoken about by participants and also found in their planning. Several other tools were discussed by participants but not found in their planning. Considering the seven tools above, only two of them were utilised by all four participants giving credence to theme number two, the amount of 21st-century literacy teaching and learning differs greatly between classrooms. The two tools used across all four participants were Google Docs and Google Slides, used as publishing tools, templates and for making presentations to share learning. These two apps are part of Google's apps for education. They were used by all teachers within participants' schools for planning purposes, alongside the learning management system Google Classroom and Gmail for email purposes, so it is valid to state that they are safe tools that participants felt comfortable using in the classroom.

In relation to the SAMR model (Puentedura, 2016) discussed earlier in this chapter, it is clear that participants did not go past the enhancement stage, mainly substituting digital tools for pen and paper activities. It is also important to note that a lot of the 21st-century literacy tasks that students were engaged in happened in other learning areas, as noted in theme five, and not during participants' reading and writing lessons.

The data strongly suggests that teachers do not explicitly plan for 21st-century literacy to occur in their classrooms. While there is some use of digital tools for reading activities and as texts for students to read, the data analysis suggests that. The use of technology to plan and share resources between teachers and students was prevalent but not as a way to enable 21st-century literacy.

Subsidiary question: What barriers do participants perceive when attempting to plan and teach 21st-century literacies?

Challenges to implementation of 21st-century literacies made up theme six and answer this subsidiary question. First-order barriers around school budget and infrastructure challenges were foremost in participants' discussions, while second-order barriers included the perceived lack of time to investigate new resources or tools, students' behaviour when using devices and teachers' own capability or acceptance to try something new. Most of these barriers were centred around technology and digital devices. Teachers felt comfortable planning and teaching with technology but did not allow the students to take ownership of their learning using technology.

Some participants also felt that their students' comprehension levels were not at a high enough level to cope with critical literacy lessons that may explore bias or power and voice within texts they might read. Sandretto and Tilson's (2015) research into teaching critical literacy in New Zealand classrooms suggests that critical literacy is able to, and should, be taught to students of all ages and reading levels. Videos of critical literacy teaching accompany the research, exemplifying

different parts of Luke and Freebody's (1990) Four Resource model being taught to different groups of children from Year 1 to 8. If critical literacy was taught through the Four Resources model, then students, regardless of their comprehension level, will be able to access and make meaning of any text, with support. The skill of analysing and checking the reliability of text should be available to all students, not just those who have a high enough reading level. All students deserve the chance to develop "all four resources to confidently communicate across a broad range of purposes, using multiple modes and text types" (Sandretto & Tilson, 2014, p. 54). Alongside this were participants' misconceptions about what 21st-century literacies entailed. Tools like the Four Resources model (Luke & Freebody, 1990) can help teachers feel more comfortable implementing critical literacy teaching into their literacy programmes.

Main research question: How do Year 5 to 8 teachers in New Zealand plan for and teach 21st-century literacies?

Year 5 to 8 teachers in this study regard 21st-century literacies as critically important due to the rapidly changing world, the prevalence of technology and social media, and uncertainties about what skills students will need in the future. They acknowledge the significance of multiliteracies, digital literacy and critical literacy in modern education. This positive attitude towards 21st-century literacies is shown in the adoption and use of some tools that enable these literacies to occur. However, this has not translated into the effective use of 21st-century tools and strategies in the classroom.

When it comes to planning and teaching 21st-century literacies, teachers in this study primarily relied on a limited set of tools, with Google Docs and Slides being the most commonly used. Unfortunately, the integration of these, and other tools remains at the substitution level of Puentedura's (2016) SAMR model, lacking deeper incorporation into the curriculum. Participants

noted barriers, including budget constraints, infrastructure challenges and concerns about students' behaviour and their own comfort level with new tools and strategies.

Participants' misconceptions around 21st-century literacies, stemming from a lack of guidance and professional development opportunities, have meant that digital literacy, critical literacy and multiliteracies have not been implemented in New Zealand classrooms. There are pockets of good practice occurring, but a lack of consistency between classrooms remains. While the importance of 21st-century literacies was recognised by teachers, there are significant gaps and challenges in the explicit planning and implementation of these literacies in Year 5 to 8 classrooms.

Contribution to the field of 21st-century literacy

This study provides valuable insight into the perspectives of upper primary teachers in New Zealand regarding 21st-century literacies, it highlights their recognition of the importance of these literacies and sheds light on the challenges they face when attempting to implement them.

This study uncovers misconceptions held by teachers regarding 21st-century literacies and identifies areas where professional development and support may be needed, this is crucial for teacher training programmes and educational policymakers to address in order to bring literacy programmes in line with the literacies that students face in their personal lives.

One key contribution to the field of 21st-century literacy is the framework created over the course of this study. The framework was borne out a need to create framework through which to analyse the planning documentation collected from participants in this study. The research surrounding 21st-century literacy and the core literacies that make it up were synthesised and refined into six facets: Foundational skills, Comprehension and meaning-making, Using multiple text modes and media., Critical literacy and analysis, Multimodal communication, and Social and cultural

contexts. These six elements can be found across literacy frameworks and work together to create a comprehensive understanding of 21st-century literacy.

Through use of the framework, barriers to the implementation of 21st-century literacy can be overcome. The challenge of time can be overcome as a lot of the thinking behind 21st-century literacies has been done for teachers and the links to classroom practice are clearly visible, taking away the need for teachers to do their own research or investigation into different tools or strategies. A framework brings together separate aspects of 21st-century literacies is a valuable synthesis of existing frameworks. School leaders can use this framework to evaluate their schools use and implementation of 21st-century tools and strategies, as well as providing a way to build teacher capability. An effective 21st-century literacy programme, that teaches students to be critical, collaborative users of digital tools will solve many of the second order barriers that teachers face like students' behaviour when using digital and online tools. This framework helps simplify existing frameworks into a system that could work in upper primary classrooms. To enable this to happen effectively, the framework could be paired with resourcing and resources like examples, lesson plans, example texts that arise from implementing a 21st-century literacy programme.

The first page of the framework is organised into six elements of 21st-century literacy and contains the definition and significance of each element, alongside possible classroom practices that can help teachers understand the different parts of 21st-century literacy and how they may fit together. Although the six elements appear to stand alone, it is important to note that they link together and complement each other to build a comprehensive literacy programme. The second part contains indicators that teachers can use to identify elements of their own classroom practice and self-assess and reflect on how they might better include 21st-century literacies in their literacy programmes.

Table 6

Six elements of an effective 21st-century literacy programme

Six elements of an effective 21st-century literacy programme			
21st-century literacy	21st-century literacies encompass essential skills required for navigating the digital age, including digital literacy, critical literacy, and multiliteracies. These literacies empower individuals to analyse, create, and interact with various forms of media and information, fostering confident, connected, and adaptable learners.		
Key element	Definition	Significance	Possible classroom practices and research links
Foundational skills	Teaching students the foundational skills of basic English - operational literacy.	Enables students to access text. Teaches them the basics so they can participate in society - reading, writing, and speaking. This doesn't have to be done with only traditional tools.	<ul style="list-style-type: none"> • Alphabet Awareness • Letter-sound relationships • Word-building and spelling rules • Understanding how texts work • Teaching specific skills through reading, writing and oral language programmes • Guided reading • Four resources link: code breaker • Greens 3D model of literacy link: operational
Comprehension and meaning making	Teaching students to construct meaning from texts.	Enables students to understand what they read and view and to engage with texts on a deeper level.	<ul style="list-style-type: none"> • Teaching comprehension strategies e.g., Activating prior knowledge, inference, summarising. • Encourage students to draw on their own experiences. • Traditional or multimodal tests • Four resources link: Text participant • Greens 3d model of literacy link: operational
Using multiple text modes and media.	Recognizing the changing landscape of literacy by exposing students to various text types and modes, to enable them to understand and make meaning from a range of texts.	It helps students develop skills to be literate in different contexts - offline, online, social media, search engines, and different text types and semiotic systems.	<ul style="list-style-type: none"> • Utilising a range of text modes in the classroom - books, eBooks, webpages, audio files, videos, presentations • Incorporating the semiotic systems into the reading and writing programme - linguistic, audio, video, spatial • Four resources: code breaker • Multiliteracies • Digital Literacy • Digital Citizenship • SAMR model • Greens 3d model of literacy link: operational

Critical literacy and analysis	Engaging students with texts to develop critical thinking skills, reflection, and analysis.	Promotes critical thinking in students and teaches them to be savvy users of technology and texts.	<ul style="list-style-type: none"> • Understand that no text is neutral, but represents particular views, voices and interests and silences others. • Questioning and reflecting on texts • Text choice that enables students to critically analyse. • Four resources link: Text analyst Greens 3d model of literacy link: critical
Multimodal communication	Including teaching and tasks that help students express themselves, becoming creators of text that fit a range of audiences and purposes.	Enables students to express themselves effectively and creatively in a variety of modes.	<ul style="list-style-type: none"> • Introducing the semiotic systems into task creation. • Providing a range of digital tools for students to use when responding to text. • Four resources link: Text user • Multiliteracies • Digital Literacy • SAMR Model – modification/redefinition • Greens 3d model of literacy link: critical, cultural
Social and cultural contexts	Understanding diverse perspectives and cultural contexts Social practices	Helping students to see where they sit in a diverse world, being aware of other worldviews to their own, in order to be inclusive of differences in society.	<ul style="list-style-type: none"> • Using a range of window and mirror texts • Culturally responsive practices • Introducing the use of family stories in reading and writing • Critical Literacy • Four resources link: Text analyst, text user • Greens 3d model of literacy link: cultural, critical

Table 7

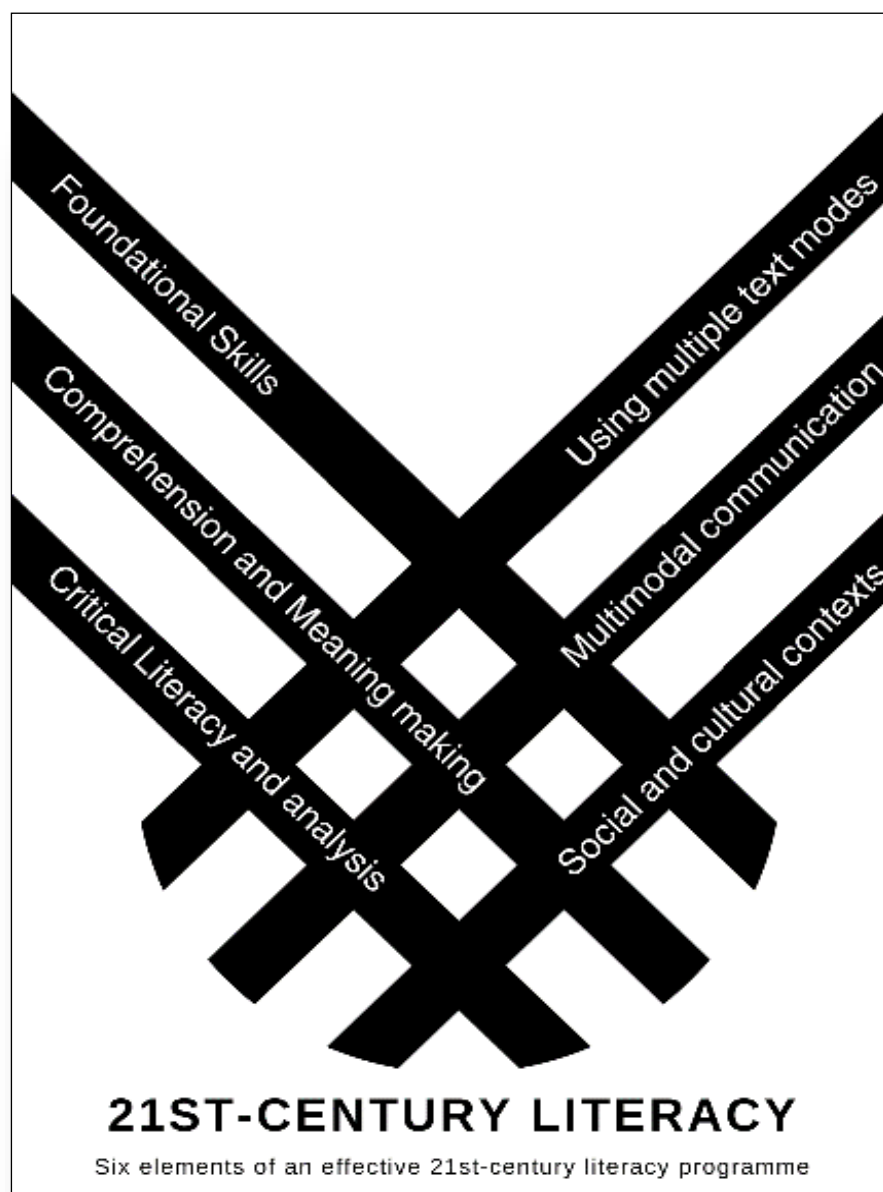
Six elements of an effective 21st-century literacy programme - indicators

Six elements of a 21st-century literacy programme		
Key Element	Definition	Reading, writing, and speaking indicators
Foundational skills	Teaching students the foundational skills of basic English - operational literacy.	<ul style="list-style-type: none"> ○ Teaching specific reading skills ○ Phonics, letter sounds, spelling rules, morphology ○ Oral language strategies ○ Spelling and grammar components to literacy programme
Comprehension and meaning making	Teaching students to construct meaning from texts.	<ul style="list-style-type: none"> ○ Comprehension strategies are taught in context - activating prior knowledge, summarising, inferring etc... ○ A range of text types is used - recounts, reports, articles, poetry
Using multiple text modes and media.	Recognizing the changing landscape of literacy by exposing students to various text types and modes, to enable them to understand and make meaning from a range of texts.	<ul style="list-style-type: none"> ○ Use of a range of text modes for reading e.g., books, eBooks, presentations, audiobooks, videos, and webpages ○ Semiotic systems incorporated into reading and writing programme - linguistic, visual, audio, spatial. ○ Connecting the reading programme to other parts of the curriculum - allowing students to see the relevance of reading, writing, and speaking
Critical literacy and analysis	Engaging students with texts to develop critical thinking skills, reflection, and analysis.	<ul style="list-style-type: none"> ○ Critical literacy strategies used e.g., author purpose, exploring perspectives in text. ○ Text choices that enable deeper analysis on a range of topics e.g., culture, environment, gender ○ Comparing and contrasting different texts ○ Connecting with texts on a personal, social, and cultural level ○ Students engaged in discussion and reflection of text using literature circles or reciprocal reading groups
Multimodal communication	Including teaching and tasks that help students express themselves, becoming creators of text that fit a range of audiences and purposes.	<ul style="list-style-type: none"> ○ Semiotic systems incorporated into writing allow for a multiliterate approach. ○ Student agency in creating text. ○ Digital literacy lessons - digital citizenship, using search engines effectively, staying safe online etc... ○ Providing a range of opportunities and tools for students to create text - digital and hard copy
Social and cultural contexts	Understanding diverse perspectives and cultural contexts Social practices	<ul style="list-style-type: none"> ○ Use of a range of 'window' and 'mirror' texts for reading - can I see myself in this text? Can I learn about others in this text? ○ Culturally responsive strategies used in literacy programme. ○ Social contexts explored - allowing students to select books on topics that interest them

While the main elements of this framework came from the literature pertinent to 21st-century literacy, the definition, examples, and indicators were crafted through the data analysis and discussion. This 21st-century literacy framework weaves together the literature, analysis, and findings from this study, weaving together key elements of 21st-century literacy needed to effectively teach students to be literate in tomorrow's literacy landscape.

Figure 7

21st-century literacy framework visual



Limitations

This was a small qualitative study that makes no claims of supplying a complete picture of 21st-century literacy learning in New Zealand classrooms. The four participants who took part in the study knew they were going to be questioned about 21st-century literacy, so it is feasible their answers were not a true reflection of their beliefs or understanding of 21st-century literacy, but instead answers that fit the theme of questioning.

This research was conducted over the course of the COVID-19 outbreak in New Zealand. The resulting lockdowns and traffic light system made it difficult to get into teacher's spaces to carry out the research. In light of this barrier, the study was modified to only include the interviews and planning documents as data. Because of this, the researcher did not observe directly 21st-century literacy happening in the classroom, by adding classroom observations to future projects a more complete picture of 21st-century literacy could emerge. This would allow researchers to match teacher beliefs with their classroom practice. Research from Pianta et al. (2008) emphasizes the value of classroom observations in understanding instructional practices. Combining interviews and planning documents with direct observations could provide a more comprehensive portrayal of how 21st-century literacy is implemented in classrooms.

The difficult nature of teaching during the COVID-19 outbreaks and the resulting stress also meant that a lot of teachers who would have possibly participated decided not to. This led to a smaller number of participants than was originally planned for. The small number of participants is itself a limitation which resulted in a smaller data set than what was hoped for. With only four interview transcripts and four sets of planning documentation, making generalisations about the state of 21st-century literacy in upper primary classrooms is difficult. Creswell and Creswell (2018) highlight the importance of considering sample size in qualitative research suggesting that larger samples allow for a broader exploration of themes and to see if the same findings and implications would apply on a larger scale.

The aim was not to judge or critique Year 5 to 8 teachers but to gather a snapshot into what New Zealand teachers believe about 21st-century literacies and how they plan to include them in their literacy programmes. Through the study, however, opportunities have arisen that gave insight into possibilities where 21st-century literacy practices could be developed.

Future research

While this research provides valuable insight into the perspectives, challenges and practices of Year 5 to 8 teachers regarding 21st-century literacies, there are still some unanswered questions that could be explored in future studies. The focus on Year 5 to 8 New Zealand teachers may not capture the full spectrum of instructional practices that enable 21st-century literacies. Other studies that delve into junior (Years 1 to 4) classrooms and secondary (Years 9 to 13) English classrooms could provide a more complete understanding of 21st-century literacy practices occurring in New Zealand classrooms. Further research into student and parent perspectives could provide a more comprehensive view of how these skills are viewed in an educational context.

To gain a deeper understanding of how students develop their 21st-century literacy skills over time, longitudinal studies that follow students' development over time could be beneficial. This would allow researchers to track 21st-century literacy across year levels, gaining insights into how teachers could more effectively plan for 21st-century literacy instruction or explore how students' 21st-century literacy skills develop across their academic journey. As Neale (2016) discusses, longitudinal studies can explore the journey of teachers and students engaged in 21st-century literacies as well as provide real-world impacts that could influence 21st-century literacy pedagogy.

Practical applications

This study offers a structured framework for educators, aiming to equip them with the clarity and guidance required to effectively plan for and teach 21st-century literacy skills in upper primary school classrooms. It establishes a clear definition of 21st-century literacy, provides placement of these different skills in various curriculum areas, and offers explicit descriptors of critical engagement and multimodal practices. The framework ensures that 21st-century literacy can become a pivotal component of classroom practice.

The definition of 21st-century literacy, synthesised in the literature review, serves as the foundation upon which the framework rests. It sets the stage for a cohesive and integrated approach to literacy instruction. An integral part of the framework is the strategic placement of 21st-century literacies within other curriculum areas. Literacy is not an isolated subject but rather the way in which students can learn, enhancing other learning domains. The literacy skills and strategies learnt in reading and writing can help students to make learning more relevant to their personal, social, and cultural lives.

The framework offers explicit descriptors of 21st-century literacy in action. It gives educators examples of how 21st-century literacy can look in a classroom, while also showing how the different facets can work together to create a comprehensive literacy programme. It draws on a range of research and literacy frameworks, namely Luke and Freebody's (1990) Four Resources Model, Coiro's (2020) Multifaceted Heuristics of online reading, and Green's (1997) 3D literacy model, offering a comprehensive tool that accommodates digital literacy, critical literacy, and multiliteracies elements. The framework is a powerful tool for school leaders to engage teachers in professional learning around 21st-century literacies. It can help teachers bridge the gap between their beliefs about 21st-century literacy and their classroom practice by offering a way to analyse and reflect on their literacy programmes. The practical applications, found in the right hand column of Table 6 highlight the applied use 21st-century literacies can have in reading and writing programmes.

In summary, this framework seeks to guide educators in a clear and adaptable manner, providing an integrated approach to 21st-century literacy instruction. It is a resource that school leaders and teachers can use to navigate the evolving literacy landscape and empower both teachers and students with the skills required to thrive in the digital age. The framework, developed during the analysis stage and then clearly linked to the themes uncovered during data analysis. It was built to address the concerns that teachers had around implementing 21st-century literacies. It sheds light on the importance of 21st-century literacy and aims to minimise variability between classrooms, clearing up misconceptions and providing a clear definition of 21st-century literacy and the six elements that make up a 21st-century literacy programme, alongside examples for learning contexts.

Conclusion

This study gives hope for the future of 21st-century literacy. The range of tools and strategies mentioned by participants shows that teachers are thinking about incorporating digital, critical and multiliteracies into their reading and writing programmes, albeit not explicitly or even as part of literacy instruction. As the International Reading Association (2009) states, “literacy educators have a responsibility to effectively integrate these new technologies into the curriculum, preparing students for the literacy future they deserve” (p. 1).

Multiliteracies encompass the myriad ways there are to be literate in today’s world and how these help people to participate in the different social and cultural groups that they belong to (Cope & Kalantzis, 2009; Garcia & Mirra, 2020; Mills, 2006). Digital technologies are here to stay, and students need the digital literacy skills needed to use these tools effectively and efficiently, being positive digital citizens who stay safe when participating in online and digital communities (Burnett & Merchant, 2019; Kereluik et al., 2013). Critical literacy learning is crucial as students get more

involved in life online, and teaches them to approach all texts critically, examining them for bias and the balance of power within (Janks, 2009; Newton, 2018; Sandretto, 2013).

Educators need to expand their definition of literacy to include these 21st-century literacies, as well as adapt teaching and learning to integrate them effectively into classroom practices. This study explored the ways in which teachers in Year 5 to 8 classrooms plan for and teach 21st-century literacies. It sheds light on the importance of guiding and supporting educators to integrate 21st-century literacy into reading and writing programs and as the educational and technological landscape continues to evolve, this research opens dialogue on how to best prepare students for literacy success in the 21st-century.

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Appendix A: Participant Information Sheet for teachers



**EDUCATION AND
SOCIAL WORK**

**SCHOOL OF CURRICULUM
AND PEDAGOGY**
Te kura o te Marautanga me te Ako

PARTICIPANT INFORMATION SHEET

Epsom Campus
Gate 3, 74 Epsom Ave
Auckland, New Zealand
T +64 9 623 8899
W www.education.auckland.ac.nz
The University of Auckland
Private Bag 92019
Symonds Street
Auckland 1135
New Zealand

Project title: 21st Century Literacies and Teacher Planning
Name of Principal Investigator/Supervisor: Rebecca Jesson
Name of Co-supervisor: Jacinta Oldehaver
Name of Student Researcher: Jerremy Williams

Researcher introduction

My name is Jerremy Williams, and I am in the process of undertaking a Master of Education through the Faculty of Education and Social Work at the University of Auckland under the supervision of Rebecca Jesson and Jacinta Oldehaver. The following information relates to the project I am carrying out for my Master's Thesis Research.

What am I studying?

I am interested in how teachers in Upper Primary New Zealand Classrooms are planning and teaching 21st Century Literacy skills. This includes Critical Literacy, Cultural Literacy and Multiliteracies.

When will my research happen?

The research data collection will happen across Term 3 of 2022, with analysis taking place over the rest of 2022.

How will my research happen?

If you consent to participate in my project you will participate in a semi-structured interview lasting around 45 minutes. You will also provide your literacy planning.

How will I gather and record data?

There will be two forms of data collection, the interview questions and analysis of planning. Interviews will be recorded and transcribed. Planning documents will be scanned or converted to PDF and analysed.

How will the data be stored and disposed of?

All data will be labelled using the numerical identifier assigned to you (i.e. no participant names will appear on any of the data collected). Initial interview data collected will be stored on a password protected portable device and then transferred to a password-protected University of Auckland

computer, backed up and stored on the University of Auckland server. Once transferred, all files will be deleted from the portable device. All digital consent forms will be stored on the same University of Auckland computer and backed up and stored on the University of Auckland server. All data will be stored in a secure location for a six-year period, a University requirement, inaccessible to anyone other than the researcher and investigators. After six years, all electronic data will be permanently deleted in accordance with University of Auckland policy.

Voluntary participation and right to withdraw

Participation in this research is entirely your choice. You may withdraw at any time without giving reason. Any data that has been collected from you will be returned or destroyed at your request. After the interview has been transcribed, you will have two weeks to review the interview and request any changes.

Anonymity and Confidentiality considerations

To provide confidentiality, all participant names will be changed. No teacher or school names will be used in the final study.

What will happen at the completion of the research?

At the end of the year when I have finished collecting the data, I will transcribe the interview data, analyse both the interview and survey data and then begin writing the findings and conclusions of the research. This writing will take another two months. From the final dissertation, a summary report will be written that will be made available to you and your principal. No identifiers, such as your name nor school name, will be used in the dissertation or any other publications or presentations.

Who can you contact about this research?

If you have any questions regarding this information sheet, the project or any other matter(s), please feel free to contact either of the investigators or myself using the details below.

Student Researcher contact details:

Jeremy Williams email: jwil306@aucklanduni.ac.nz Ph. 6265391

Supervisor contact details:

Rebecca Jesson Email: r.jesson@auckland.ac.nz Ph. 623 8899 Ext: 48216

Co-supervisor contact details:

Jacinta Oldehaver Email: j.oldehaver@auckland.ac.nz Ph. 623 8899 Ext.48638

Faculty of Education, Head of Curriculum and Pedagogy contact details:

Associate Professor
Katie Fitzpatrick

Email: k.fitzpatrick@auckland.ac.nz Ph. 623 8899 ext: 48652

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373 7599 Ext 83711. Email: humanethics@auckland.ac.nz

Approved by the University of Auckland Human Participants Ethics Committee on 28.06.22 for three years. Reference Number 24636.

Appendix B: Consent form for participating teachers



EDUCATION AND SOCIAL WORK

SCHOOL OF CURRICULUM AND PEDAGOGY
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The University of Auckland
Private Bag 92019
Symonds Street
Auckland 1135
New Zealand

CONSENT FORM

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: 21st Century Literacies and Teacher Planning
Name of Principal Investigator/Supervisor: Rebecca Jesson
Name of Co-Supervisor: Jacinta Oldehaver
Name of Student Researcher: Jerremy Williams

I have read the Participant Information Sheet, have understood the nature of the research project and why I have been selected. I have had the opportunity to ask questions and have them answered to my satisfaction.

I agree to take part in this research project.

- I understand the length of time that I will be participating.
- I understand that the Principal/Board of Trustees have given assurance that participation or non-participation will not affect my relationship with the school nor my employment status.
- I understand that I will need to take part in one semi structured interview.
- I understand that I will provide a copy of my Literacy (reading and writing) planning.
- I understand that I am free to withdraw from participation at any time, without giving reason.
- I understand that I will be audio recorded and the audio transcribed by the researcher.
- I understand that data will be kept for 6 years in University of Auckland, password protected, online storage, after which time the data will be destroyed.
- I understand that information from the study will be published but my name and the name of the school will not be used, although some inferences may be drawn by the other participants or by people who know I took part.
- I understand that I will receive a summary of the research upon the conclusion of the study.

Name:

Signature:

Email:

Date:

Approved by the University of Auckland Human Participants Ethics Committee on 28.06.22 for three years. Reference Number 24636.

Appendix C: Information sheet for site of research



**EDUCATION AND
SOCIAL WORK**

**SCHOOL OF CURRICULUM
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The University of Auckland
Private Bag 92019
Symonds Street
Auckland 1135
New Zealand

PRINCIPAL/BOARD OF TRUSTEES INFORMATION SHEET

Project title: 21st Century Literacies and Teacher Planning
Name of Principal Investigator/Supervisor: Rebecca Jesson
Name of Co-Supervisor: Jacinta Oldehaver
Name of Student Researcher: Jerremy Williams

Researcher introduction

My name is Jerremy Williams, and I am in the process of undertaking a Master of Education through the Faculty of Education and Social Work at the University of Auckland under the supervision of Rebecca Jesson and Jacinta Oldehaver. The following information relates to the project I am carrying out for my Master's Thesis Research.

What am I studying?

I am interested in how teachers in Upper Primary New Zealand Classrooms are planning and teaching 21st Century Literacy skills. This includes Critical Literacy, Cultural Literacy and Multiliteracies.

When will my research happen?

The research data collection will happen across Term 3 of 2022, with analysis taking place over the rest of 2022.

How will my research happen?

If you consent for your teacher/s to participate in my project they will participate in a semi-structured interview lasting around 45 minutes. They will also provide their literacy planning. To compensate for taking up their valuable time a koha will be offered to the participant.

How will I gather and record data?

There will be two forms of data collection, the interview questions and analysis of planning. Interviews will be recorded and transcribed. Planning documents will be scanned or converted to PDF and analysed.

How will the data be stored and disposed of?

All data will be labelled using the numerical identifier assigned to the teacher(i.e. no school or participant names will appear on any of the data collected). Initial interview data collected will be stored on a password protected portable device and then transferred to a password-protected University of Auckland computer, backed up and stored on the University of Auckland server. Once

transferred, all files will be deleted from the portable device. All digital consent forms will be stored on the same University of Auckland computer and backed up and stored on the University of Auckland server. All data will be stored in a secure location for a six-year period, a University requirement, inaccessible to anyone other than the researcher and investigators. After six years, all electronic data will be permanently deleted in accordance with University of Auckland policy.

Voluntary participation and right to withdraw

Participation in this research is entirely the teacher’s choice. They may withdraw at any time without giving reason. Any data that has been collected from them will be returned or destroyed at their request.

Anonymity and Confidentiality considerations

To provide confidentiality, all participant names will be changed. No teacher or school names will be used in the final study.

What will happen at the completion of the research?

At the end of the year when I have finished collecting the data, I will transcribe the interview data, analyse both the interview and survey data and then begin writing the findings and conclusions of the research. This writing will take another two months. From the final dissertation, a summary report will be written that will be made available to you, the participant, the principal and Board of Trustees. No identifiers, such as names or school name, will be used in the dissertation or any other publications or presentations.

Who can you contact about this research?

If you have any questions regarding this information sheet, the project or any other matter(s), please feel free to contact either of the investigators or myself using the details below.

Student Researcher contact details:

Jeremy Williams email: jwil306@aucklanduni.ac.nz Ph. 02041200299

Principal Investigator/Supervisor contact details:

Rebecca Jesson Email: r.jesson@auckland.ac.nz Ph. 623 8899 Ext: 48216

Co-investigator contact details:

Jacinta Oldehaver Email: j.oldehaver@auckland.ac.nz Ph. 623 8899 Ext.48638

Faculty of Education, Head of Curriculum and Pedagogy contact details:

Associate Professor
Katie Fitzpatrick

Email: k.fitzpatrick@auckland.ac.nz Ph. 623 8899 ext: 48652

For any queries regarding ethical concerns you may contact the Chair, The University of Auckland Human Participants Ethics Committee, The University of Auckland, Research Office, Private Bag 92019, Auckland 1142. Telephone 09 373 7599 Ext 83711. Email: humanethics@auckland.ac.nz

Name: Signature:

Email: Date:

Approved by the University of Auckland Human Participants Ethics Committee on 28.06.22 for three years. Reference Number 24636.

Appendix D: Consent form for site of research



**EDUCATION AND
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New Zealand

PRINCIPAL AND BOARD OF TRUSTEES CONSENT FORM

THIS FORM WILL BE HELD FOR A PERIOD OF 6 YEARS

Project title: 21st Century Literacies and Teacher Planning
Name of Principal Investigator/Supervisor: Rebecca Jesson
Name of Co-Investigator: Jacinta Oldehaver
Name of Student Researcher: Jerremy Williams

I have read the Participant Information Sheet, have understood the nature of the research project and why the teacher involved has been selected. I have had the opportunity to ask questions and have them answered to my satisfaction.

- I agree to let _____ take part in this research project.
- I understand the length of time that they will be participating.
- I understand that as Principal/Board of Trustees, I have given assurance that participation or non-participation will not affect the participants' relationship with the school nor their employment status.
- I understand that they will need to take part in a one on one semi structured interview.
- I understand that they will provide a copy of my Literacy (reading and writing) planning
- I understand that they are free to withdraw from participation at any time.
- I understand that they will be audio recorded and the audio transcribed by the researcher.
- I understand that data will be kept for 6 years in University of Auckland, password protected, online storage, after which time the data will be destroyed
- I understand that information from the study will be published but the teacher's name and the name of the school will not be used, although some inferences may be drawn by the other participants or by people who know I took part.
- I understand that a summary of the research will be sent to all participants upon the conclusion of the study.

Name:

Signature:

Email:

Date:

Approved by the University of Auckland Human Participants Ethics Committee on 28.06.22 for three years. Reference Number 24636.

Appendix F: Semi-structured interview questions

Introduce study

The aim of this research is to explore teacher perceptions of 21st-century Literacy. What it is, how important it is and how it relates to classroom practice i.e., the planning and teaching of New Literacies in the classroom.

Define and discuss:

- Multiliteracies
- Critical literacy
- Digital literacy

Literacy General Questions

- How do you plan for Literacy instruction?
- What tasks and activities are students engaged in in your classroom during Literacy time?
- What do you think is important for students to learn in Literacy?
- What type of texts do you plan for your students to read?

21st Literacy Questions

- How important is it to teach students 21st-century literacies?
- How does your planning and teaching incorporate 21st Century Literacy skills?
 - Multiliteracies?

- Critical Literacy?
- Digital Literacy?
- What types of literacies are students engaged in, in your classroom during reading?
(Traditional, Multi, critical, digital etc...)
- What types of literacies are students engaged in, in your classroom during writing?
(Traditional, Multi, critical, digital etc...)
- How do you incorporate the Semiotic systems? Visual, audio, gestural etc...
- What constraints do you face with implementing 21st century literacies?

Appendix E: Framework for analysis of teacher literacy planning

Framework: elements of an effective 21st-century upper primary literacy programme

Key element	Definition	Significance	Possible classroom practices
Foundational skills	Teaching students the foundational skills of basic English - operational literacy.	Enables students to access text. Teaches them the basics so they can participate in society - reading, writing and speaking. This doesn't have to be done with only traditional tools.	<ul style="list-style-type: none"> • Alphabet Awareness • Letter-sound relationships • Word-building and spelling rules • Understanding how texts work • Teaching specific skills through reading, writing and oral language programmes • Guided reading • Four resources link: code breaker • Greens 3D model of literacy link: operational
Comprehension and meaning-making	Teaching students to construct meaning from texts.	Enables students to understand what they read and view and to engage with texts on a deeper level.	<ul style="list-style-type: none"> • Teaching comprehension strategies e.g. Activating prior knowledge, inference, summarising • Encourage students to draw on their own experiences • Traditional or multimodal tests • Four resources link: Text participant • Greens 3d model of literacy link: operational
Using multiple text modes and media.	Recognizing the changing landscape of literacy by exposing students to various text types and modes, to enable them to understand and make meaning from a range of texts.	It helps students develop skills to be literate in different contexts - offline, online, social media, search engines, and different text types and semiotic systems.	<ul style="list-style-type: none"> • Utilising a range of text modes in the classroom - books, ebooks, webpages, audio files, videos, presentations • Incorporating the semiotic systems into the reading and writing programme - linguistic, audio, video, spatial • Four resources: code breaker • Multiliteracies • Digital Literacy • Greens 3d model of literacy link: operational

<p>Critical literacy and analysis</p>	<p>Engaging students with texts to develop critical thinking skills, reflection and analysis.</p>	<p>Promotes critical thinking in students and teaches them to be savvy users of technology and texts.</p>	<ul style="list-style-type: none"> • Understand that no text is neutral, but represents particular views, voices and interests and silences others • Questioning and reflecting on texts • Text choice that enables students to critically analyse. • Four resources link: Text analyst Greens 3d model of literacy link: critical
<p>Multimodal communication</p>	<p>Including teaching and tasks that help students express themselves, becoming creators of text that fit a range of audiences and purposes.</p>	<p>Enables students to express themselves effectively and creatively in a variety of modes.</p>	<ul style="list-style-type: none"> • Introducing the semiotic systems into task creation. • Providing a range of digital tools for students to use when responding to text • Four resources link: Text user • Multiliteracies • Digital Literacy • Greens 3d model of literacy link: critical, cultural
<p>Social and cultural contexts</p>	<p>Understanding diverse perspectives and cultural contexts Social practices</p>	<p>Helping students to see where they sit in a diverse world, being aware of other worldviews to their own, in order to be inclusive of differences in society.</p>	<ul style="list-style-type: none"> • Using a range of window and mirror texts • Culturally responsive practices • Introducing the use of family stories in reading and writing • Critical Literacy • Four resources link: Text analyst, text user • Greens 3d model of literacy link: cultural, critical