“Unequal Click” - Understanding Power in Digital Adoption Among Early Childhood Educators

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A research component submitted to Auckland University of Technology in partial fulfilment of the requirements for the degree of

Master of Business Management

Auckland University of Technology School of Business

2026

Abstract

The growing use of digital technologies in early childhood education (ECE) has changed teaching practice, administrative procedures and communication with families. Storypark and SeeSaw are among the digital platforms that have become integral to daily work in ECE settings in Aotearoa New Zealand. Nevertheless, educators' use of these technologies remains uneven. Existing research has examined digital skills, access and organisational influences on technology use, but little is known about how organisational power shapes educators' digital participation in ECE.

This interpretivist comparative case study involved 16 participants from two ECE centres in Auckland, nine from Centre A and seven from Centre B. Semi-structured interviews explored educators' experiences of digital technology use, organisational decision-making and participation. The data were analysed using reflexive thematic analysis and interpreted through the Circuits of Power framework.

Centre A had integrated digital technologies across most areas of its work. Centre B used them more selectively, as a deliberate pedagogical choice to protect hands-on learning. Educators described access as broadly available in formal terms but unevenly usable in practice. Managers led decisions, in consultation with governance groups or staff, and little resistance was reported. Educators experienced inclusion and exclusion mainly through informal recognition and professional expectations, rather than deliberate exclusion. Organisational norms and routines shaped what counted as appropriate digital practice, while the format and pace of support shaped who felt able to take part.

The study suggests that power over digital adoption in these centres operated more through shared meanings and everyday routines than through open conflict. Its contribution is a contextual account of the difference between formal access to digital tools and meaningful participation. For ECE leaders, the findings highlight the importance of professional expectations, a manageable pace of change and support suited to educators' different needs.

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Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless clearly stated and referenced, along with the purpose of use), nor material which, to a substantial extent, has been submitted for the award of any other degree or diploma of a university or institution of higher learning.

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Acknowledgement

I would like to acknowledge that this research has been approved by the Auckland University of Technology Ethics Committee on December 2, 2025, ethics number: **25/319**.

I want to thank my supervisor for all the guidance, constructive feedback, encouragement, and continued support throughout this study. I would also like to thank the management and teachers of the early childhood education centres who generously shared their time, experience, and views. Thanks to my family and friends for their patience, understanding, motivation and emotional support while I was studying. Last but not least, I thank all those who helped me with my research and the successful completion of this thesis in any way possible.

CHAPTER 1: INTRODUCTION

1.1 Background and Context

The rapid development of digital technologies has had a significant influence on educational settings worldwide, including early childhood education (ECE). Digital technologies are also increasingly used across New Zealand education more broadly, where students have among the highest rates of digital technology use worldwide (Cullen et al., 2024). Storypark and SeeSaw are digital platforms that have become a common part of daily educational experiences in Aotearoa New Zealand and facilitate pedagogical documentation, administration, and family and whānau communication (Education Review Office, 2021). These technologies are no longer merely additional tools; they have become the basic infrastructure that defines teaching, learning, and organisational practices in ECE (Hatzigianni et al., 2023).

Digital technologies have significant potential for ECE, as they increase the visibility of children's learning, enable real-time communication with families, and support adherence to regulatory and assessment requirements (Celik et al., 2023). Teachers are increasingly using online applications to record learning narratives, track progress, and harmonise activities with curriculum models. Moreover, online platforms make organisations more efficient by facilitating administrative processes and enabling data-driven decision-making (Schilirò, 2024).

Beyond these benefits, new challenges have arisen from the integration of digital technologies, especially regarding access, participation, and equity. It has been found that digital inclusion in ECE settings is uneven due to disparities in infrastructure, funding, and socioeconomic factors (Hartnett & Fields, 2019). Even though there are well-equipped centres with stable Internet access and various digital devices, others have limited access, outdated technologies, and limited technical support (Hartnett & Fields, 2019).

Digital adoption therefore cannot be explained solely by individual skills or dispositions. Rather, it is influenced by broader organisational and structural factors, such as leadership priorities, institutional policies, and resource allocation decisions (Hatzigianni et al., 2023; Simeonova et al., 2022). As digital systems become an established part of ECE practice, it is important to understand how these factors shape access and participation to address equity and inclusion concerns in the sector.

1.2 Problem Statement

Despite the increasing integration of digital technologies into ECE, unequal access to and reliance on these technologies remain significant concerns. The available literature indicates that institutional factors (such as leadership decisions, governance models, and resource allocation) and individual competencies contribute to disparities in digital participation (Alotaibi, 2023; Hatzigianni et al., 2023).

Research suggests that in many ECE environments, the use of digital tools, platforms, and training opportunities is not distributed equally among teachers. One of the factors is that senior staff or those in leadership positions tend to have more control over digital resources, such as access to administration and the right to make decisions, whereas part-time or less experienced educators have less access to these systems (Simeonova et al., 2022; Warsi & Rani, 2024). Such unequal distribution can limit educators' ability to participate in key activities, including documentation, communication with families, and involvement in organisational processes.

These disparities are closely connected to the power dynamics in organisations. Institutional ownership and control of digital resources can shape technology implementation, access to them, and the distribution of responsibility. Consequently, digital technologies have the potential to support the already existing organisational hierarchies and affect the allocation of professional agency among teachers (Coelho et al., 2022; Simeonova et al., 2022).

Although research on digital transformation in education has increased (The Organisation for Economic Co-operation and Development [OECD], 2025), research exploring the connection between organisational power and digital participation in ECE settings, specifically in Aotearoa New Zealand, remains limited. Existing research addresses digital skills, access, professional learning and organisational influences on technology use (Alotaibi, 2023; Hatzigianni et al., 2023; OECD, 2025), but much of what is known about technology and organisational power comes from information systems research (Jasperson et al., 2002; Markus, 1983; Simeonova et al., 2022). This limits our understanding of how power functions in digital spaces and its role in facilitating a sense of inclusion and exclusion among ECE teachers.

This study addresses a gap in the literature by exploring how institutional control, organisational norms and routines, and forms of support shape educators' experiences of adopting and participating in digital technology in ECE settings. It interprets these experiences

using the Circuits of Power framework (Clegg, 1989; Silva & Backhouse, 2003). This study offers insight into educators' digital participation by emphasising power dynamics.

1.3 Research Aim

This study seeks to explore how institutional ownership and control of digital resources, organisational norms and routines, and forms of support shape educators' access, participation, and digital engagement in two ECE centres in Aotearoa New Zealand.

1.4 Research Questions

To achieve this aim, the study addresses the following research questions:

1. How do educators describe their access to digital technologies and their opportunities to use them in their work?
2. How do leaders and educators describe the way decisions about digital technologies are made and put into practice?
3. How do educators experience inclusion or exclusion in relation to digital technology use?
4. How do organisational norms, routines and forms of support shape educators' digital participation?

1.5 Research Objectives

The objectives of this study are:

1. To explore how educators describe their access to digital technologies and their opportunities to use them.
2. To examine how leaders and educators describe the way decisions about digital technologies are made and put into practice.
3. To investigate educators' lived experiences of inclusion and exclusion in digital practices.
4. To analyse how organisational norms, routines and forms of support shape digital participation.
5. To interpret findings using the Circuits of Power framework to understand how power operates through the episodic, social integration and systemic integration circuits.

1.6 Significance of the Study

The present research contributes to both theory and practice. Academically, it adds insights to the scholarly work on digital technologies in ECE by introducing a power-based analytical

perspective. Using the Circuits of Power framework, the study looks beyond individual-level accounts and emphasises the role of organisational structures and institutional conditions in shaping digital participation (Simeonova et al., 2022; UNESCO, 2024).

In a practical sense, the findings are useful to ECE leaders, policymakers, and practitioners. Insights into how educators experience digital participation can inform strategies to enhance access to digital technologies, ensure equitable resource distribution, and promote inclusive digital practices (Hatzigianni et al., 2023). The study also highlights the importance of leadership and governance in the development of digital environments, providing direction for the development of more supportive and equitable organisational systems.

Moreover, the research has social implications for addressing inclusion and professional equity in the ECE workforce. Disproportionate access to digital technologies may limit educators' ability to engage in the full range of professional activities and to be involved in organisational processes. The findings of this study provide insights that may assist ECE leaders in developing more equitable digital practices and supporting educator participation in digital environments.

1.7 Structure of the Thesis

This thesis is organised into five chapters.

- **Chapter 1** presents the background of the research, problem statement, research aim, research questions, objectives, and research significance.
- **Chapter 2** provides a literature review that explores digital technology in ECE, organisational power, digital inequality, the ECE sector in Aotearoa New Zealand, and proposes the Circuits of Power framework.
- **Chapter 3** explains the research methodology, which includes an interpretivist paradigm, a comparative case study design, and data collection and analysis procedures.
- **Chapter 4** presents the findings of the study.
- **Chapter 5** discusses the findings in relation to the research questions, the existing literature and the Circuits of Power framework, and outlines the main implications, limitations, and recommendations for future research, before presenting the conclusion.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Digital technologies have considerably changed ECE, impacting teaching, administration and communication with families. This thesis examines the relationship between digital systems, organisational power and involvement of educators in Aotearoa New Zealand. Whilst digital confidence and attitude towards technology are known to impact technology uptake (Alotaibi, 2023), institutional leadership, structural positioning and policy expectations are also found to be important (Hatzigianni et al., 2023; Simeonova et al., 2022). Despite significant progress in digital inclusion efforts in New Zealand, digital inequity remains a persistent issue, particularly across socio-economic and geographic contexts (Harnett & Fields, 2019; UNESCO, 2024). This chapter reviews research on digital technology in ECE, organisational power in technology adoption, inequities in digital access and participation and the ECE sector in Aotearoa New Zealand. It then presents the Circuits of Power framework (Section 2.6) and the research gap the study addresses.

2.2 Digital Technology in ECE

2.2.1 Nature and Purpose of Digital Technologies in ECE

Digital technologies have been integrated throughout ECE, influencing how teachers plan, communicate, record learning, and interact with families. Examples of platforms used to support various elements of ECE practice in the New Zealand context include Storypark, SeeSaw, and Kinderloop, which are integrated digital ecosystems. These platforms offer real-time documentation, child portfolios, parent-teacher correspondence, assessment history, and administrative tracking. Their main aim is to make children's learning more visible, build relationships with whānau, and improve organisational operations.

Research suggests that digital tools in ECE are commonly used for three interrelated functions: pedagogical, administrative, and communication-oriented (Celik et al., 2023; Hatzigianni et al., 2023). Teachers are increasingly using digital applications to document observations and learning stories and to connect children's progress with curriculum objectives. A scoping review of 38 studies found that digital pedagogy in early childhood is commonly play-based, project-based or collaborative, and that digital technologies can transform, not just support, teaching practice (Li et al., 2024). Studies indicate that new technologies - including tablets, documentation systems, and cloud-based portfolios - are the focal point of programme planning and assessment practices in many ECE centres (Hatzigianni et al., 2023).

ECE organisations increasingly use digital systems to manage enrolment, attendance, funding records, and internal reporting processes. Research highlights that these tools are increasingly essential to fulfil regulatory expectations and quality standards, especially in countries with quality frameworks that require systematic documentation, e.g., Australia and New Zealand (Hatzigianni et al., 2023). Digital management platforms are also useful for governance functions, leadership decision-making, and organisational monitoring, which extend far beyond classroom practice.

Another main objective of digital technologies is communication. Platforms such as Storypark encourage sustained and personalised interactions with parents and whānau via messages, photos, videos, and updates. The tools have proven essential for sustaining learning relationships, especially during crises such as COVID-19 lockdowns, when online communication replaced face-to-face interaction (Education Review Office, 2021).

In these functions (pedagogical, administrative, and communication), ECE work is becoming increasingly centralised within digital systems. Research indicates that teachers use digital tools not only to teach but also to perform their daily tasks, meet internal organisational requirements, and communicate professionally. Digital platforms are thus among the central infrastructural components of modern ECE, serving as the mechanism for interaction among teachers, leaders, children, families, and regulatory bodies (Hatzigianni et al., 2023). However, research in Aotearoa New Zealand has revealed that digital inclusion and the success of communication platforms can vary with socio-economic, cultural, and infrastructural differences (Hartnett & Fields, 2019). Thus, the increasing dependence on digital technologies in ECE highlights the need to examine how digitalisation is shaping pedagogical practice, organisational power, and equity in early childhood settings.

2.2.2 Patterns of Technology Use Among Educators

Other research indicates that digital infrastructure, funding decisions and leadership priorities affect the positioning and use of technologies in ECE centres. Digital technologies are utilised in different ways across contexts, ranging from predominantly compliance and administrative tasks to more widespread use in pedagogical practice (Hatzigianni et al., 2023; Li et al., 2024).

There is a noticeable variation in access to digital resources in centres that cater for communities experiencing socio-economic disadvantage, where teachers often face additional difficulties accessing technology and digital support (Hartnett & Fields, 2019). These

contextual differences affect teachers' experiences with technology use and their opportunities to participate in digital practices.

2.3 Organisational Control and Power in Technology Adoption

2.3.1 Conceptualising Power in Organisations

Power within organisations is the capacity to influence decisions, direct resources, and shape organisational practices. Power in this study is defined as institutional ownership and control of digital resources in ECE settings. This involves having the power to buy, distribute, control and develop the use of digital technology. Ownership concerns who is buying, which platforms and devices are being purchased, and who is given access to these technologies; control concerns how the technologies will be governed, supported, and integrated into normal day-to-day organisational practice (Hatzigianni et al., 2023; Orlikowski, 1992; Silva & Backhouse, 2003). While research on power in ECE is limited, there are ample insights from the Information Systems (IS) literature on the relationship between technology and organisational power (Amrollahi & Afshari Mofrad, 2023). Markus (1983) proposed that the flow of information and decision-making processes within an organisation could be used to manipulate organisational power, and Jasperson et al. (2002) saw power as expressed in decision rights, authority, and influence within an organisation.

Later studies have broadened the concept of power to encompass more than formal power. Simeonova et al. (2022) distinguish two types of power: episodic power, manifested in control over resources and decision-making, and systemic power, implicit in the institution's norms, routines, and expectations. The Circuits of Power framework (Section 2.6) separates these norms and routines into two circuits, social integration and systemic integration. Access to resources like digital tools, training, permissions, and communication channels can also enable some and constrain the participation of others (Coelho et al., 2022). ECE educators with greater access to digital resources and professional development are more likely to be influential in digital practices. In contrast, those with less access may have fewer opportunities for engagement. These views highlight the need to consider digital participation as a function of individuals' capacities, as well as of organisations' resource allocation mechanisms and institutional forms of control.

2.3.2 Individual-Level Power Dynamics

In terms of individual power dynamics, teachers' access to digital resources, opportunities for professional learning, and communication networks influence the adoption of technology. The

use of digital technologies in education is determined not only by educators' digital competence but also by the availability of hardware, software, training, and support, as well as by their skills in using these technologies (Alotaibi, 2023; Lindeman et al., 2021). Because organisations differ and educators do not always have equal access to these resources, some educators engage in digital practices more fully than others.

The literature on information systems also indicates that digital technology might strengthen the existing hierarchy in organisations by allowing some individuals to gain and access more information, and to engage in information-based decision-making processes, than others (Amrollahi & Afshari Mofrad, 2023; Simeonova et al., 2022). Teachers who can access digital dashboards, assessment data, communication tools, and professional development could have greater visibility and influence within organisational processes. At the same time, teachers with less access to technology may experience restrictions in documentation, family communication, and other digitally mediated practices. Coelho et al. (2022) suggest that these differences in access to resources can affect opportunities for participation and influence within organisations. In ECE contexts, therefore, institutional practices regarding documentation, platform accessibility, and communication may affect educators' experiences of participation, autonomy, and professional agency (Lindeman et al., 2021).

2.3.3 Institutional-Level Power Dynamics

From an institutional perspective, power manifests in various ways, including leadership decision-making, resource allocation, policy formulation, and setting expectations for technology use within the organisation (Hatzigianni et al., 2023; Orlikowski, 1992; Silva & Backhouse, 2003). The research indicates that the implementation, support, usage and integration of digital technologies in educational contexts are significantly influenced by the leadership of the organisations involved (Hatzigianni et al., 2023). Choices about which platforms can be used, the financial resources allocated to technology, and the prioritisation of digital projects impact teachers' access to technology and opportunities for participation. Such organisational decisions can affect the availability of digital resources and the way teachers interact with digital systems in their professional practice (OECD, 2025). Research also shows that leadership can foster or hinder digital innovation by creating conditions that enable teachers to experiment with and use digital technologies (Hatzigianni et al., 2023). When digital adoption is primarily for administrative efficiency and compliance, technology can be employed as a management tool rather than an innovative pedagogical tool (UNESCO, 2024). In addition, the funding and deployment of digital infrastructure and technologies vary by

service and community and could exacerbate inequities of access to technology and infrastructure in communities with socio-economic disadvantage (Hartnett & Fields, 2019).

Institutional power is also evident in decisions about professional development opportunities and institutional policies on technology use. Targeted professional development and continuous organisational support have been shown to increase teacher confidence and competence in digital technologies (Alotaibi, 2023; OECD, 2025). The availability of professional learning opportunities may, however, differ based on the organisation's priorities, staffing, and resources (Education Review Office, 2023). Institutional policies concerning digital documentation, privacy, communication, and technology use also influence teachers' engagement in digital practices by articulating the acceptable scope and nature of engagement, as well as expectations for professional conduct (UNESCO, 2024). Markus (1983) suggests that organisational rules concerning technology may carry meanings about how work should be done and reinforce the existing authority structure. In ECE settings, these institutional practices shape relationships among educators, families, ECE leaders, and regulatory bodies through digital systems.

2.3.4 Structural or Systemic Power in Digital Environments

Structural power is based on norms, routines, and cultural expectations that covertly influence the use of digital technologies (UNESCO, 2024). Many formalised expectations, such as documentation and communication, tend to favour digitally confident educators over less confident colleagues (Lindeman et al., 2021). Such disparities are exacerbated in centres with poor infrastructure, especially in disadvantaged communities (Hartnett & Fields, 2019). Another disparity is evident between policy aspirations for digital inclusion and the realities of inequalities in capability and access (Education Review Office, 2021). Structural power may therefore shape who benefits from digital systems.

2.4 Inequities in Digital Resource Access and Participation

2.4.1 Material Inequalities

Material inequalities significantly affect the accessibility and use of digital technologies in ECE centres. The evidence suggests large discrepancies between well-resourced centres that can invest in high-quality devices, reliable internet, and multiple digital platforms, and poorly resourced centres that barely meet minimum digital expectations (Hartnett & Fields, 2019). These differences are often evident by location. In Australia, families experiencing socio-economic disadvantage and those in regional and remote areas are underrepresented in services

rated as high quality (Tang et al., 2024). Rural and remote areas can also face unreliable connections, low internet speeds and a lack of technical support. Such infrastructure inequalities negatively affect the quality, quantity, and uniformity of digital exchange (Alotaibi, 2023; OECD, 2025).

The availability and quality of devices are major causes of this disparity. The centres with sound budgets can offer several tablets, laptops, and documentation tools for teachers, enabling them to engage in digital planning, assessment, and communication without being limited by time or space (Hatzigianni et al., 2023). On the other hand, less-funded institutions may have only outdated, shared devices, which can slow educators' performance on digital tasks (OECD, 2025). Where organisational expectations remain the same, staff in these centres bear the added burden of these limitations. Lindeman et al. (2021) noted that a lack of devices leads to unequal digital experiences for both teachers and children, thereby reinforcing existing inequality in the ECE sector.

2.4.2 Professional Development Inequalities

Unequal PD access is one of the most significant factors contributing to digital inequity among teachers (Warsi & Rani, 2024). Often, PD is allocated according to the hierarchical position in the organisation, which means training is primarily offered to full-time, senior, or permanently contracted employees, while part-time, temporary, or casual staff—who form a large part of the ECE workforce—are given limited opportunities (Hatzigianni et al., 2023). This can create a distinct digital divide within the educational workforce, in which some teachers acquire advanced digital skills while others are left unsupported (OECD, 2025). This disparity in access further reinforces the existing professional hierarchy and limits the teaching team's collective digital capacity (UNESCO, 2024).

Studies indicate that temporary or casual workers are the most affected group, as they are often excluded from digital onboarding or training on advanced systems because their job roles are considered auxiliary (Warsi & Rani, 2024). Hence, they might lack logins, permissions, or even the confidence to operate digital platforms effectively, despite having a hand in the children's learning documentation. Alotaibi (2023) establishes a strong correlation between PD participation and digital confidence, with educators who receive training specific to their needs exhibiting higher acceptance of technology use and fewer difficulties in incorporating digital tools into their practice.

These PD discrepancies can leave staff with uneven digital skills, which may restrict collaborative planning, hinder communication with families and limit the organisation's ability to carry out digital initiatives inclusively.

2.4.3 Participation, Autonomy, and Digital Agency

The provision of digital resources and educator training strongly influences whether teachers can meaningfully participate in documentation, planning, assessment, and communication (Alotaibi, 2023; Hatzigianni et al., 2023; Lindeman et al., 2021). Unequal access can lead teachers to rely more on others for their digital use and to have less control over the digital tools. Research indicates that teachers who lack access to devices, login credentials, or professional development are the ones who most often fall short of contributing to centre-wide digital tasks, thereby differentiating their participation within the teaching team (Lindeman et al., 2021). This can result in them being less visible in organisational decision-making and may limit their ability to have a say in the development of pedagogical narratives.

Unequal digital access can also affect the distribution of labour (Coelho et al., 2022; Markus, 1983). For instance, teachers with greater digital skills or better access sometimes find themselves in charge of more responsibilities, including documentation and channels for keeping families informed. At the same time, those with fewer resources are likely to be assigned more manual tasks or those involving looking after children (UNESCO, 2024). Such divisions suggest that access to digital systems can bring both symbolic and real power. In cases where the role of digital platforms is crucial for learning stories, assessment records, or internal communication, teachers with restricted access will find it difficult to make meaningful contributions to pedagogy.

Autonomy is not solely a matter of skills; system permissions, management expectations, and institutional norms also determine it. For example, teachers who are not allowed to use digital planning tools or communication channels may feel like outsiders in the centre's operations (Hatzigianni et al., 2023). In contrast, equal access to and support for educators can enable digital tools to empower them professionally through collaboration, creativity, and shared pedagogical decision-making (Alotaibi, 2023).

Taken together, this research suggests that disparities in access can reinforce tiered participation within teaching teams, with some educators shaping centre practices while others are left on the margins.

2.4.4 Experiences of Exclusion and Restricted Access

Limited digital access can push teachers aside and make them feel like they are no longer part of the centre (Alotaibi, 2023). Educators who lack the necessary digital devices, authorisations, or stable systems may play a smaller role in the centre's operations, thereby reducing their influence and professional recognition (Lindeman et al., 2021). Disparities between those who can and those who cannot use digital communication can become particularly visible in documentation and communication tasks, where non-digital contributors may be perceived as less active or less committed, even though they are actually constrained by structural barriers (Hatzigianni et al., 2023). This can lead to unequal distribution of tasks and recognition and to feelings of being cut off and not belonging (Coelho et al., 2022).

2.5 ECE in Aotearoa New Zealand

2.5.1 Overview of the NZ ECE System

The ECE sector in Aotearoa New Zealand is diverse, including education and care centres, kindergartens, kōhanga reo, playcentres and home-based services, and operates within a common regulatory framework (Ministry of Education, 2024; New Zealand Government, 2022). There are differences in governance and funding arrangements, staffing, and organisational priorities, all of which affect access to and management of resources (Education Review Office, 2023). Evidence from Australia's similarly marketised sector shows that such differences can produce inequitable access to high-quality services, particularly for families experiencing socio-economic disadvantage and those in regional and remote areas (Tang et al., 2024). Reviews over the past few years have found that factors such as organisational capacity, resources, and regulatory requirements can affect how services implement and maintain digital systems and practices (Education Review Office, 2023; New Zealand Government, 2022).

2.5.2 Digital Technology Policies and National Trends

National policies impact the adoption and use of digital technologies in New Zealand ECE settings across two areas: education and digital inclusion, and service quality. Digital systems are becoming more critical to the government's administration, communication, regulatory compliance and engagement with families (New Zealand Government, 2022). Likewise, the Education Review Office (2023) found that digital platforms were growing in significance for keeping services organised, documented, connected, and for communicating. While there has been progress in improving digital inclusion, there are differences in access to infrastructure, technical support, and organisational capacity within the sector (Education Review Office,

2023). The differences indicate that the readiness and ability of ECE services to incorporate digital technologies into their everyday practice differ.

2.5.3 Workforce Structure and Technology Participation

The ECE workforce in Aotearoa New Zealand is highly diverse, with a high proportion of female educators and a mix of full-time, part-time, and relieving educators across a variety of service types (Education Review Office, 2023). Opportunities for educators to engage in professional learning and digital practices may be affected by workforce diversity, employment relationships, and organisational structures. Access to organisational resources, professional development opportunities, and digital systems can vary across services depending on staffing structures and organisational priorities (Education Review Office, 2023; New Zealand Government, 2022). Digital technologies are becoming more central to the documentation, communication, and administration of ECE, and variation in access and participation could affect educators' experiences of digital engagement in ECE contexts.

2.6 Theoretical Framework: Circuits of Power

This section discusses the theoretical framework guiding this study.

2.6.1 Overview of the Circuits of Power Model

The Circuits of Power framework is an integrative theoretical model originally developed by Stewart Clegg (1989) and adapted for IS research to study how power leads to the institutionalisation of technology (Silva & Backhouse, 2003). It moves beyond viewing power as a simple individual capacity, instead treating it as a relational phenomenon that sustains and stabilises social systems through three interrelated circuits: the episodic circuit, the circuit of social integration and the circuit of systemic integration, as summarised in **Table 1**.

The Episodic Circuit focuses on causal power, often defined as “power over,” where one agent (A) makes another agent (B) do something they would not otherwise do (Silva & Backhouse, 2003). This circuit is primarily characterised by resistance and involves the interaction between system promoters (champions) and resistors (Silva & Backhouse, 2003). The ability to exercise power here depends on standing conditions, including the organisational positions agents hold and the resources they can deploy (Silva & Backhouse, 2003). The circuit is considered complete when the intended outcome is achieved, such as successfully compelling users to adopt a system despite their initial opposition (Silva & Backhouse, 2003). Episodic power can be seen in decisions about who may use the devices, who gets the login, or what each is responsible for (Markus, 1983).

Table 1: The Three Circuits of Power (adapted from Silva & Backhouse, 2003)

Circuit	Type of Power	Focus Areas
Episodic Circuit	Causal Power	Focuses on direct interactions where one agent (A) makes another (B) do something they otherwise would not do.
Social Integration	Dispositional Power	Focuses on the rules of meaning and membership that entitle certain individuals to exercise power.
Systemic Integration	Facilitative Power	Focuses on the techniques of production and discipline (such as surveillance or routinisation) that achieve collective goals.

The Circuit of Social Integration deals with dispositional power, providing the social conditions that enable the exercise of causal power (Silva & Backhouse, 2003). It is rooted in the organisational rules of meaning and membership (Silva & Backhouse, 2003). Under rules of meaning, a system must align with user identities and professional discourses to be successful; if users view a system as "clerical" or "unimportant," they may feel it undermines their status and offer resistance (Silva & Backhouse, 2003). Rules of membership concern formal and informal status and how the implementation of technology affects organisational hierarchies and group dynamics (Silva & Backhouse, 2003). Dispositional power can be reflected in digital systems that embed norms and policies (Coelho et al., 2022; Simeonova et al., 2022), which, in turn, favour certain roles.

The Circuit of Systemic Integration involves facilitative power, which is "productive" power used to achieve collective organisational goals through technical means (Silva & Backhouse, 2003). Organisations employ disciplinary practices—such as surveillance, routinisation, and formalisation—to ensure that members comply with the system (Silva & Backhouse, 2003). A system becomes deeply embedded when it is established as an obligatory passage point, meaning it is the only way for members to perform essential work tasks, such as accessing project funds or recording performance data (Silva & Backhouse, 2003). Facilitative power is derived from infrastructures and tools that either enable or restrict the practice (Henfridsson & Bygstad, 2013). These circuits, taken together, illustrate how digital systems divide people into users and non-users according to their roles and access rights.

2.6.2 Relevance to Digital Technology in ECE Settings

The Circuits of Power framework was selected because it allows the analysis to move beyond individual digital skills and examine how decisions, workplace meanings and established routines jointly shape participation. Episodic power concerns identifiable interactions and

decisions, such as the allocation of platform permissions or responsibilities. Social integration concerns the organisational rules, expectations and professional meanings that make some practices legitimate. Systemic integration concerns the infrastructures and routines through which digital work becomes enabled or constrained (Clegg, 1989; Silva & Backhouse, 2003). In this study, these concepts guide interpretation of participants' accounts; they do not establish that every difference in confidence or colleague support is an exercise of power. Each circuit is applied to the research questions it can help to answer.

2.7 Research Gap

Existing scholarship on digital technology in early ECE has established that educators use digital tools for documentation, communication, administration and professional learning. The literature also identifies digital confidence, access to resources, leadership expectations and professional development as influences on technology use. These findings show that digital participation is shaped by both individual and organisational conditions; therefore, the gap is not a general absence of research on leadership or technology access.

What remains less clearly explained is how these conditions interact within everyday workplace relationships to produce different opportunities to participate even where staff have broadly similar formal access to digital systems. In particular, the relationship between managerial decisions, educators' informal influence, pedagogical values and established organisational routines requires closer examination across contrasting ECE settings. Access to a device or platform does not necessarily mean an educator has equal confidence, discretion or influence over how it is used.

This study addresses that more specific gap through a qualitative comparison of two ECE centres. It asks how educators describe their access to digital technologies and their opportunities to use them; how decisions about digital technologies are made and implemented; how educators experience inclusion or exclusion; and how organisational norms, routines and forms of support shape their participation. The Circuits of Power framework provides a way to interpret how decisions, professional expectations and organisational arrangements interact in participants' accounts. The study contributes a context-specific explanation of the distinction between formal digital access and meaningful participation; it does not claim that two centres represent the entire ECE sector.

2.8 Chapter Summary

This chapter reviewed the literature on the use of digital technology in ECE and examined its relationship to organisational power and educator participation. Existing research shows that digital participation is influenced by educators' confidence, access to resources, leadership practices and professional development opportunities. However, less is understood about how these factors interact within everyday organisational relationships and why educators with similar access to digital technologies may experience unequal opportunities to participate and influence decisions. This study addresses this gap by examining the experiences of participants across two ECE centres, using the Circuits of Power framework to explore how organisational decisions, professional expectations and established workplace routines shape meaningful digital participation. The following chapter presents the methodology used to address the research gap and questions.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The methodology employed in this research is described here to explain how it was used to explore the influence of institutional ownership and control of digital resources on educators' engagement with digital technologies in ECE settings in Aotearoa New Zealand. A qualitative research strategy was adopted, as this study aimed to better understand organisational power, digital participation, and the lived realities of educators. Qualitative research is well-suited to understanding social processes, meanings, and experiences in their natural contexts and can provide researchers with deeper insight into how individuals make sense of and respond to their social world (Creswell & Creswell, 2018; Merriam & Tisdell, 2016).

The chapter outlines the philosophical stance taken in the research, the comparative case study design, the research sites, the selection of participants and methods for data collection and analysis. The chapter ends with a discussion of trustworthiness, researcher positionality and reflexivity, and the ethical issues that informed this study.

3.2 Research Paradigm

The study was guided by an interpretivist paradigm. The interpretivist belief is that social reality is created through human interactions and that people make sense of their world based on their experiences and the contexts in which they live (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Interpretivist research is not about seeking a single objective reality but about people's interpretations and how they make sense of their social worlds (Walsham, 1995). The research for the present study was conducted within this paradigm because it aimed to examine educators' experiences of digital participation and their perceptions of institutional power in ECE contexts.

In this study, digital technologies were perceived as more than technical tools; they were also considered organisational resources embedded in social, cultural and institutional settings. Educators' digital participation was approached as something that could be shaped by their access to digital materials, organisational expectations, professional responsibilities and interactions with their colleagues and leaders.

The interpretivist paradigm is also in line with the study's theoretical orientation. The Circuits of Power framework treats power as relational and as operating through daily life, organisational norms, institutional rules, and wider structures (Silva & Backhouse, 2003). These forms of power were examined through how educators described and understood them,

rather than through numerical measures. Knowledge was generated from participants' accounts of their experiences and from the interpretation of these accounts within their organisational context.

3.3 Research Design: Comparative Case Study

A qualitative comparative case study design was used. A case study is well-suited to exploring a contemporary phenomenon in a real-world context when the boundaries between the phenomenon and its context are not clearly defined (Yin, 2018). Case study research facilitates a detailed investigation of complex social processes and can lead researchers to develop a deep understanding of how people experience and interpret events in particular contexts (Merriam & Tisdell, 2016).

A comparative design examines two or more cases to identify similarities, differences, and patterns across contexts (Yin, 2018). This design was particularly relevant to the present study because educators' digital participation may be influenced by the organisation's leadership practices, resource allocation, infrastructure, and institutional policies.

The study contrasted two ECE centres: one made extensive use of digital technologies across its work, while the other used them more selectively. Contrasting cases can deepen analytical understanding by revealing differences in the same social processes across contexts, as Stake (1995) notes. Comparisons were made between the two centres to identify patterns in digital access, participation, and organisational decision-making.

The research was exploratory and did not test preconceived hypotheses. The goal of case study research, as stated by Yin (2018), is analytical rather than statistical generalisation. Therefore, the results are not meant to be representative of all ECE centres in New Zealand. Rather, they help develop the theoretical understanding of how organisational structures, resource allocation, and institutional decision-making processes could influence educators' experiences of digital participation in ECE settings.

3.4 Research Sites and Case Selection

This study took place in two ECE centres in Aotearoa, New Zealand. The cases were selected purposefully because they had the potential to yield meaningful experiences of the phenomenon under investigation (Merriam & Tisdell, 2016; Patton, 2015). Selection was based on community context, digital practice, the range of educators' experience, relevance to the research questions and feasibility.

Both centres are in Auckland but are located in different areas and serve contrasting communities. Centre A is on the North Shore and has a bilingual and culturally diverse environment. Centre B is in Ōtara and serves a predominantly Pacific community in a multilingual environment. Selecting centres from different areas enabled exploration of digital practices across diverse community contexts.

The centres were also chosen because they were at opposite ends of the spectrum of digital technology integration. Although both operated within the same national ECE regulatory framework, they differed in digital infrastructure, technology use and organisation. This allowed the study to compare educators' familiarity with, and everyday use of, digital technologies, including documentation and communication platforms. Within each centre, educators also had varying levels of confidence, familiarity, and experience with digital technologies, so the study could capture a range of perspectives.

Together, these contrasts made the centres suitable for examining how organisational norms, routines, management decisions, and forms of support, including resource provision, shape educators' digital participation. Both centres were accessible to the researcher for interviews and document review, subject to appropriate permissions and informed consent.

3.5 Participants and Sampling Strategy

This study used a purposive sampling method to recruit participants from two ECE centres in Aotearoa, New Zealand. One advantage of purposive sampling in qualitative research is that it allows the researcher to select participants with experiential knowledge and insights into the phenomenon of interest (Patton, 2015). Participants were selected for their direct involvement in the use of digital systems for documentation, communication, administration, and/or teaching.

Sixteen participants were interviewed across the two research sites: nine from Centre A and seven from Centre B. Participants occupied different roles, including teaching and leadership positions. Recruitment was facilitated by the centre leaders, who distributed participant information sheets to staff members. Those interested in the project approached the researcher directly via email to indicate their willingness to participate. This mitigated the risk of pressure arising from the workplace hierarchy and ensured that participation was voluntary. The sampling strategy was appropriate because it included participants who were involved in decision-making about digital technologies as well as those whose daily professional practices

were directly affected by those decisions. **Table 2** shows the details of the participants in the study.

Table 2: Participant Demographic Profile

Participant Code	Centre	Role in the Centre	Age Group	Years of Experience Range
P1	Centre A	Centre Manager	Under 40	1-5 years
P2	Centre A	Centre Supervisor	Under 40	1-5 years
P3	Centre A	Assistant Supervisor	Under 40	6-10 years
P4	Centre A	Over 2s Team Leader	Under 40	6-10 years
P5	Centre A	Over 2s Assistant Team Leader	40+	11-15 years
P6	Centre A	Over 2s Teacher	40+	11-15 years
P7	Centre A	Under 2s Teacher	Under 40	1-5 years
P8	Centre A	Under 2s Teacher	40+	16+ years
P9	Centre A	Unqualified Teacher	40+	1-5 years
P10	Centre B	Centre Manager	Under 40	1-5years
P11	Centre B	Centre Supervisor	Under 40	6-10 years
P12	Centre B	Team Leader: Under 2s	Under 40	6-10 years
P13	Centre B	Over 2s Teacher	40+	11-15 years
P14	Centre B	Team Leader: Under 2s	40+	16+ years
P15	Centre B	Under 2s Teacher	40+	16+ years
P16	Centre B	Unqualified Teacher	Under 40	1-5 years
Notes: Under 2s = children under the age of 2; Over 2s = children over the age of 2; Unqualified Teacher = teachers without formal qualifications				

3.6 Data Collection Methods

The study employed three data collection methods: semi-structured interviews, interview observation notes and document analysis.

3.6.1 Semi-Structured Interviews

Semi-structured interviews were the primary data source used in the research. The interviews were appropriate because they enabled participants to share their experiences with digital access and their perceptions and understanding of organisational decision-making (Merriam & Tisdell, 2016). The interview questions were developed based on research questions. The interviews were conducted online using Microsoft Teams. Online interviewing offered greater accessibility, scheduling flexibility, and the ability to engage participants across different locations, while maintaining opportunities for rich interaction and rapport-building between the researcher and participants.

The interviews took approximately 45-60 minutes. The interviews were not audio-recorded. Responses were documented in writing and compiled into question-and-answer records by the

researcher. Extracts in this thesis therefore reproduce wording from the written records. The researcher took extensive notes during the interview. **Figures 1** and **2** show examples of notes taken during the interview process.

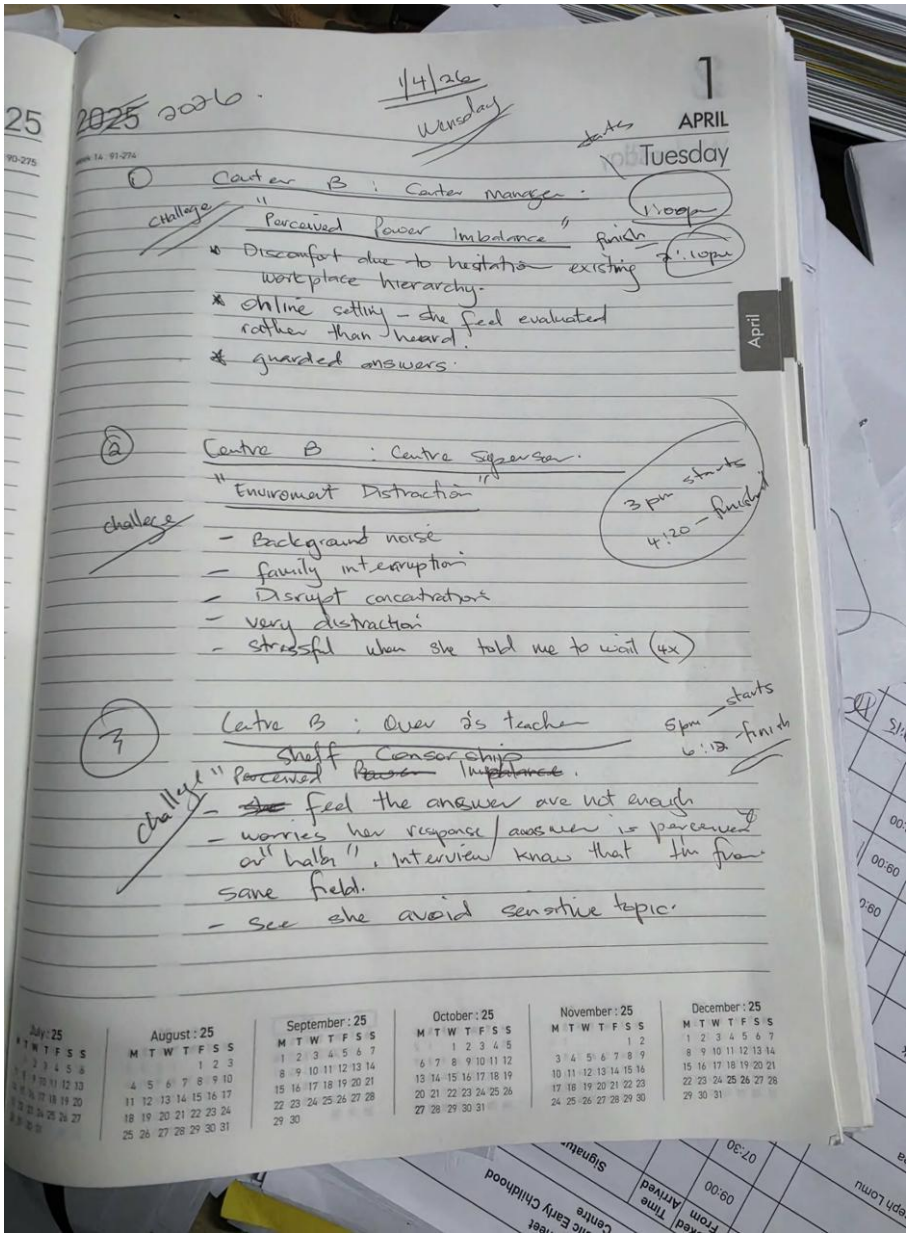


Figure 1: Example 1 of the Documented Interview Record

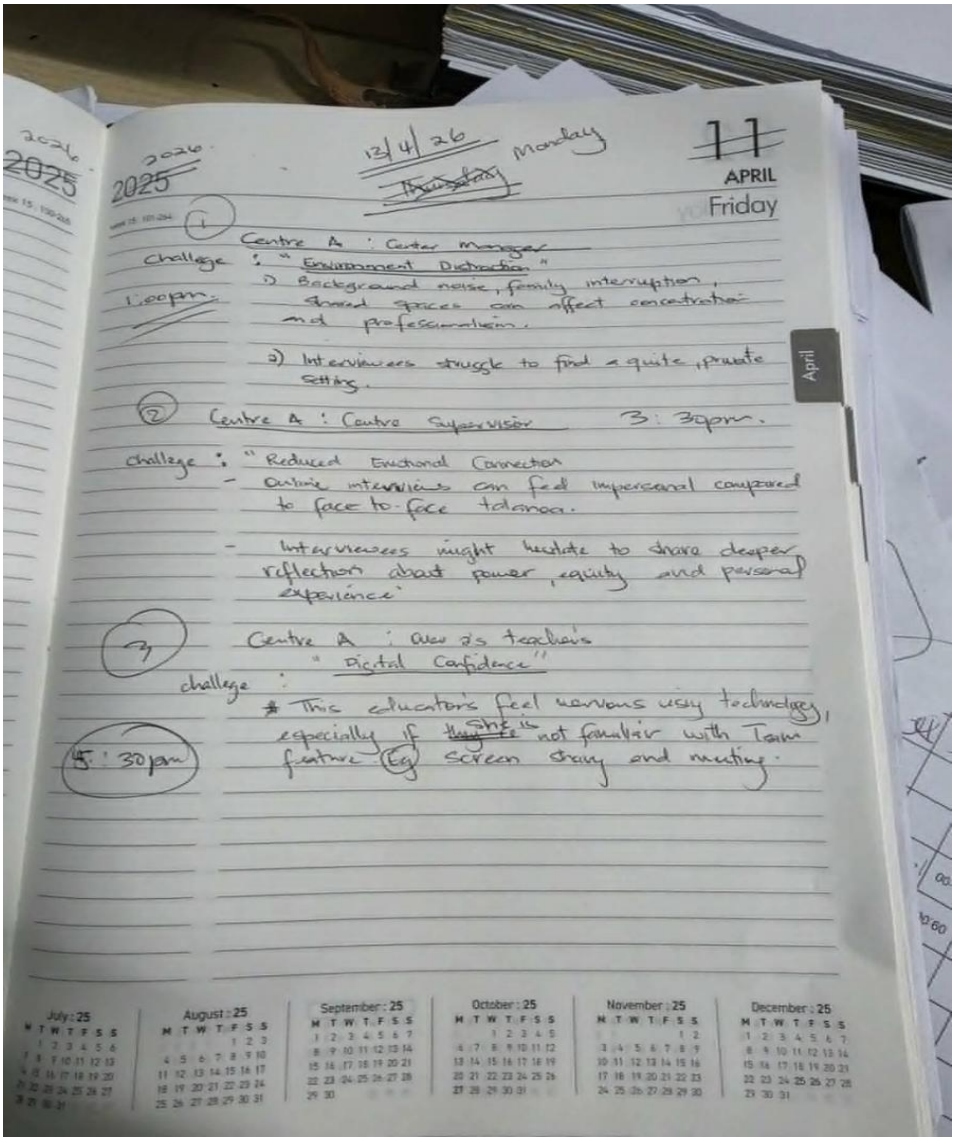


Figure 2: Example 2 of the Documented Interview Record

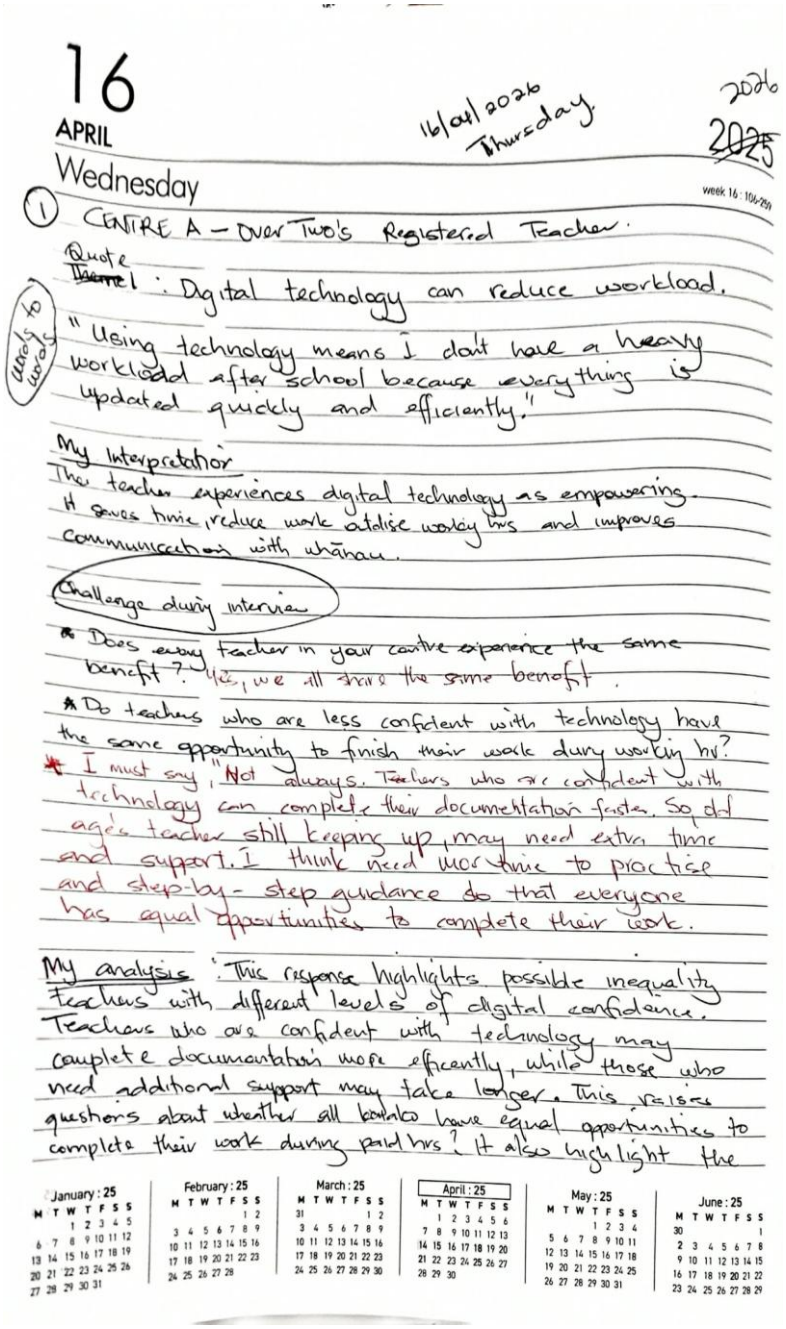

16
APRIL
Wednesday
16/04/2026 Thursday
2026
~~2025~~
week 16 : 104-261
1
CENTRE A – Over Two's Registered Teacher.
Quote
1 : Digital technology can reduce workload.
words to words
" Using technology means I dont have a heavy workload after school because everything is updated quickly and efficiently."
My Interpretation
The teacher experiences digital technology as empowering. It saves time, reduce work at/dise working hrs and improves communication with whānau.
Challenge during interview
* Does every teacher in your centre experience the same benefit? Yes, we all have the same benefit.
* Do teachers who are less confident with technology have the same opportunity to finish their work during working hr?
* I must say, Not always. Teachers who are confident with technology can complete their documentation faster. So, dif age's teacher still keeping up, may need extra time and support. I think need more time to practise and step-by-step guidance so that everyone has equal opportunities to complete their work.
My analysis
This response highlights possible inequality Teachers with different levels of digital confidence. Teachers who are confident with technology may complete documentation more efficently, while those who need additional support may take longer. This raises questions about wheather all teachers have equal opportunities to complete their work during paid hrs? It also highlight the
January : 25
February : 25
March : 25
April : 25
May : 25
June : 25

Figure 3: Example 3 of the Documented Interview Record

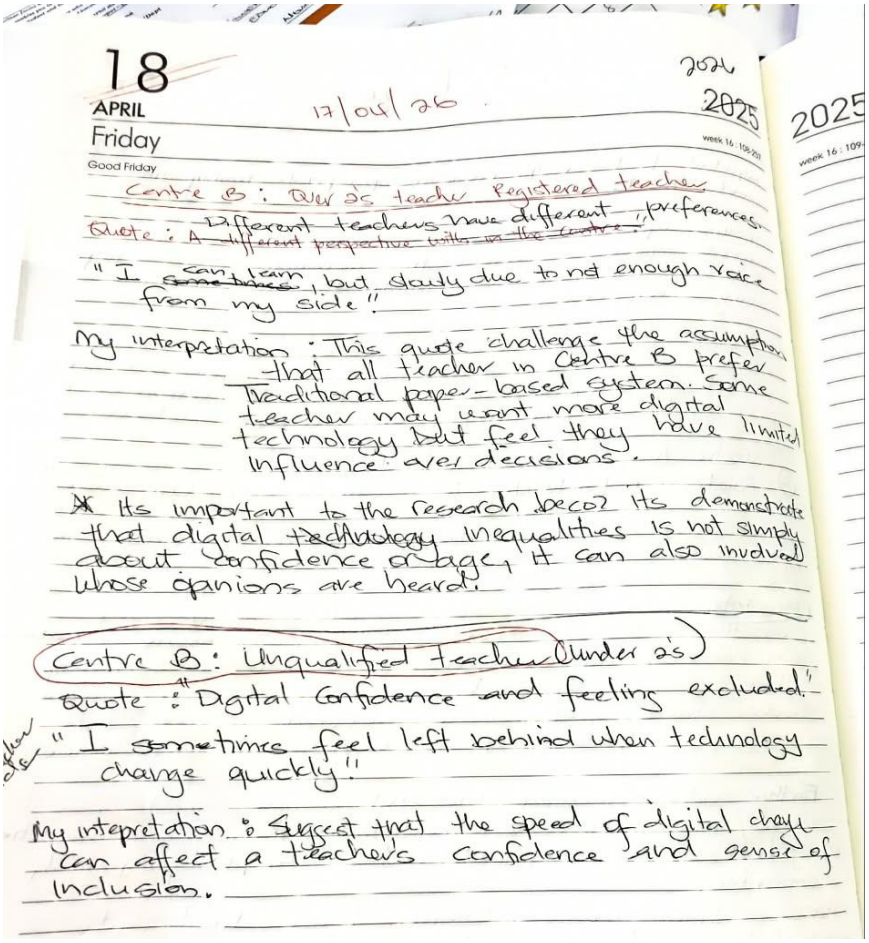


Figure 4: Example 4 of the Documented Interview Record

Notes were also taken on the participants' tone of voice, emotional reactions, hesitations, confidence in discussing technology, and nonverbal behaviours during and after each interview, where possible. The descriptions of digital access, training opportunities, organisational decision-making, and inclusion/exclusion in relation to technology-related practices were given special attention. Interview observation notes were also used as a reflexive device, allowing the researcher to capture her own observations, assumptions, and interpretations of the interview as it unfolded. During the data analysis process, these notes were checked against the written interview records and organisational documents to support interpretation and enhance transparency. The following is an example of an interview observation note:

Date: 12 March 2026

Participant: P1

Observation: Participant was confident in discussing the responsibilities of the leader but showed hesitation in talking about technology skills. The participant often

sought out younger workers for digital assistance and emphasised the need to rely on their skills.

Reflective note: This observation might be useful for analysis of how power operates in the organisational and technological domains and should be discussed with the group during analysis.

3.6.2 Document Analysis

To complement the interview data and gain insight into formal organisational structures that influenced digital technology use in each centre, document analysis was also completed. Document analysis is a valuable qualitative approach, as it allows researchers to analyse organisational policies, procedures, and records, thereby providing insights into institutional practices and decision-making processes (Bowen, 2009).

As **Table 3** shows, the documents analysed included centre policies, guidelines, records and procedures relating to digital technology. The documents provided background on each centre's formal expectations for digital technology and were read alongside participants' accounts during analysis. They served as contextual material and were not analysed as a separate body of evidence, so the findings in Chapter 4 are based mainly on participants' accounts. The documents were not used to verify individual access, logins or permissions.

Table 3: Documents Analysed

Document Type	Source
Technology Use Policies	Centre A and Centre B
Digital Communication Guidelines	Centre A and Centre B
Professional Development Records	Centre A and Centre B
Storypark Usage Guidelines	Centre A
Administrative System Procedures (Infocare, MYOB, iPayroll)	Centre B
Staff Meeting Minutes Related to Technology	Centre A and Centre B
Digital Documentation Procedures	Centre A and Centre B
Privacy and Digital Safety Policies	Centre A and Centre B

3.7 Data Analysis

Reflexive thematic analysis, developed by Braun and Clarke (2006, 2019), was used for analysing the data. Reflexive thematic analysis was chosen because it is a flexible and systematic method for identifying, interpreting, and reporting patterns of meaning in qualitative data. The approach was suitable for exploring the educators' experiences of the adoption of digital technology and the role of institutional power in digital practices.

The analysis was conducted using the six phases suggested by Braun and Clarke (2006). The researcher first familiarised themselves with the data by repeatedly reading the written interview records, interview observational notes and organisational documents. Second, initial codes were inductively developed from the participants' significant statements and experiences. Digital confidence was coded from participants' descriptions of their familiarity with digital systems, their ability to complete tasks, their experiences learning new platforms, and their support needs. Third, codes were grouped into preliminary themes related to patterns of digital access, technology use, decision-making processes, professional development, and organisational power. Fourth, themes were reviewed and developed to ensure coherence within themes and some differentiation between them. Fifth, themes were clearly named and defined, producing the eight themes reported in **Chapter 4**. Sixth, the findings were written up theme by theme, first for each centre and then as a comparison of Centre A and Centre B.

NVivo software was used to facilitate the organisation, storage, coding and retrieval of qualitative data. The process of analysing the data was also iterative, with the researcher moving back and forth among the data, codes, themes, and theoretical concepts. **Table 4** illustrates the coding process, showing how participant extracts led to the themes discussed in **Chapter 4.**

Table 4: Coding Process

Participant response extract (from written record)	Initial code	Analytical code	Theme
"As Centre Manager, I lead the process, but I always consult with the teaching team"	Leadership consultation	Decision-making	Leadership and institutional control
"Training is usually offered to everyone, but those who are more confident with technology often take the lead."	Confidence and informal influence	Confidence and participation	Digital confidence and generational differences
"Even as an unqualified teacher, I am included in online professional development and can learn alongside the registered teachers"	Access to professional learning	Training access	Professional development and support
"Training is offered fairly to all staff"	Perceived fairness of training	Training access	Professional development and support

Interpretation followed the thematic analysis as a separate stage. Thus, **Chapter 4** reports what participants described, and **Chapter 5** interprets those findings. The themes were then

interpreted through the three circuits of the Circuits of Power framework (Clegg, 1989; Silva & Backhouse, 2003).

3.8 Trustworthiness and Rigour

Credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985) were used to establish the study's trustworthiness. Methodological triangulation (interviews, document analysis, and interview observational notes) was used to enhance credibility. Documents and notes added context to participants' accounts rather than verifying them.

The audit trail established and maintained during the research process facilitated dependability by providing a record of methodological decisions, coding, theme development, and reflections on the analysis. Confirmability was supported by journaling, which enabled the researcher to recognise personal assumptions and critically reflect on how these may affect the interpretation of the data. Rich descriptions of the participating centres, participants, and organisational contexts were provided, allowing the reader to judge the transferability of the findings to other contexts.

Similar to Braun and Clarke's (2019) reflexive thematic analysis approach, the researcher noted that the qualitative analysis is not an objective discovery, but rather a process of active interpretation.

3.9 Researcher Positionality and Reflexivity

As an early childhood educator with prior experience in the ECE sector, I approached this study from an insider perspective. My familiarity with early childhood practices, digital technologies, organisational structures, and workplace challenges provided valuable contextual understanding. This professional background also helped me establish rapport with participants and understand their experiences of digital technology use within ECE settings.

However, my professional experience could also influence how I interpreted participants' accounts, particularly regarding digital inequality, leadership practices, access to technology, and organisational decision-making. To address this potential bias, I engaged in ongoing reflexive practice throughout the research process. I maintained an analytical journal and reflexive notes to critically examine how my assumptions and professional experiences might influence data collection, interpretation, and theme development. During interviews, I sought to minimise leading questions and encouraged participants to describe their experiences in their own words.

Throughout the analysis, I reflected on my interpretations to ensure that the findings remained grounded in participants' accounts rather than my personal assumptions. Reflexivity therefore supported transparency and strengthened the credibility of the research by encouraging critical examination of my position as both an educator and a researcher (Berger, 2015).

3.10 Ethical Considerations

The Human Research Ethics Committee of the University approved this research. The study adhered to the ethical guidelines of informed consent, voluntary participation, confidentiality, anonymity, and protection from harm. A Participant Information Sheet was distributed to all participants, explaining the purpose of the study, the procedures to be followed, the time required, and participants' rights. All participants gave informed consent prior to interviews.

Since the study focused on power relations in the workplace, special efforts were made to minimise the potential risks of participation. Interviews were held online to maintain the privacy and confidentiality of participants' identities, protecting them from those at their centres. There was no pressure for participants to take part, and their consent to enter the study was voluntary, with the option to withdraw at any time without penalty or harm. It was also explained to the participants that their participation or non-participation would not affect their employment status, assessments at their centres, or their professional relationships with others.

Participant codes were used throughout the study to ensure participants' confidentiality. Identifying information about people, centres and workplace situations was omitted from the written records and reporting process. Research notes, interview observational notes, consent forms, and other research documents were kept securely in password-protected electronic files only accessible to the researcher. Data were handled in line with university ethical guidelines and data protection requirements.

As this research explored access issues, decision-making and organisational power, it was important that, when the topic was discussed, participants felt free to voice their opinions without fear of judgement or repercussions. These measures provided participants with a safe space to reflect on their experiences with digital technology, participation, and organisation.

3.11 Chapter Summary

This chapter presented the research methodology employed to address the research gap and answer the research questions. The study used a comparative case study of two ECE centres, drawing mainly on semi-structured interviews, with interview observation notes and documents as supporting material. The data were analysed using reflexive thematic analysis

and then interpreted through the Circuits of Power framework. The following chapter reports the results of the research obtained via the given research methodology.

CHAPTER 4: FINDINGS

4.1 Introduction

The findings of the research project are described in this chapter. Findings are drawn from qualitative interviews with ECE educators and leadership staff at two ECE settings (Centre A and Centre B) in Aotearoa New Zealand.

The findings presented in this chapter are organised around eight themes: organisational approaches to digital technology; leadership and institutional control; digital confidence and generational differences; professional development and support; inclusion, exclusion, and unequal participation; organisational norms and expectations; balancing technology and hands-on learning; and digital technology as empowerment and pressure.

Throughout the chapter, the results are presented separately for Centre A and Centre B for easy comparison and clarity. Each theme ends with a brief comparison of the two centres.

4.2 Organisational Approaches to Digital Technology

Centre A and Centre B differed in their approaches to digital technology, which in this chapter refers to the devices, platforms and software that participants named in their accounts. Both centres had access to digital communication, administration and documentation, but there was a wide variation in the extent to which technology was integrated into daily practice. Participants described differences in the types and purposes of digital technologies used across the two ECE centres, particularly for documentation, communication, administration, and pedagogical activities. These findings reflect participants' reported experiences and practices rather than quantitatively measured frequencies of technology use.

Centre A

At Centre A, the digital environment was well integrated, with technology used in all aspects of communication, administration, curriculum development, professional development, and documentation. Commonly mentioned were the use of Storypark, Zoom, Teams, Facebook pages, PowerPoint presentations, tablets, laptops, educational software, interactive whiteboards, and PLNs online.

Participant P1 described digital tools as routine administrative and communication infrastructure, stating: “These technologies are used daily.” The manager explained that they were used in administration, communication with whānau, planning, compliance, and curriculum documentation. The use of digital technologies as tools to enhance communication

between teachers and families, reduce workload, and improve efficiency was also highlighted as important. One of the teachers who works with the older preschool group (children aged 2 years and above) explained that technology made it possible to keep documentation up to date quickly and efficiently. They noted that digital tools allowed staff to complete most communication and record-keeping during centre hours, rather than taking work home.

Participants particularly appreciated platforms like Storypark, which they said provided real-time updates, improved parent involvement, and ensured whānau were engaged with the child's learning journey.

Participant P2 cited technology as a "powerful tool for teaching, leadership, and teamwork", and younger teachers (under 40 years of age) often reported feeling confident, motivated and comfortable with the digital systems. The participants tended to be positive towards technology and felt it aided their professional development and effectiveness as teachers. However, not all Centre A participants described themselves as confident; these differences are reported in **Section 4.4.**

Centre B

Centre B took a more focused and purposeful approach to integrating digital technology. Digital technologies were mainly used for administration, compliance, communication, and documentation with children. The technologies employed at Centre B were mobile phones for photos and videos, televisions, Infocare, MYOB, iPayroll, email, and some online technologies.

Participant P10 explained that not using the learning-story applications common in other centres was a deliberate pedagogical choice: "This is intentional because we prefer limited technology for children." The centre preferred to maintain a more controlled, purposeful use of digital tools within the learning environment, focusing on hands-on learning (children's learning through physical play, exploration, creativity and real-life experiences) and face-to-face interaction rather than extensive digital integration.

Centre B participants repeatedly emphasised the need to integrate technology with traditional teaching methods, describing technology as a tool to complement, not supplant, authentic learning experiences. Some participants (especially those teaching children under 2 years of age and those over 40 years of age) noted concerns that excessive technology use could negatively impact children's development and diminish quality interactions. One participant

said that “kids should have a range of experiences – not all digital” (P15). Another participant shared that “having too much technology can make teachers lazy”.

Comparative Analysis

Centre A participants described a broader range of digital applications and linked technology to efficiency, innovation, convenience, communication, and professional ability, whereas Centre B participants emphasised selective use of technology and hands-on learning. At Centre B, technology was primarily considered an administrative and communication tool rather than a primary pedagogical tool.

4.3 Leadership and Institutional Control

Across both centres, participants described leadership involvement in selecting, introducing, and using digital technologies. Participants’ accounts indicated that leadership influenced which technologies were adopted, how training was provided, and how digital expectations were communicated to staff.

Centre A

Leadership in Centre A was described as influencing the use, funding, training, and expectations for technology. A decision-making process involving consultation with teachers, governance groups, and whānau was typical for decisions about digital technologies. The manager described younger teachers as “more advanced” and “naturally confident” with digital tools, and often delegated practical digital tasks to them.

Both the Assistant Supervisor and the Centre Supervisor stated that they were actively engaged in digital decision-making due to their knowledge of and confidence in digital tools. They regularly took on leadership roles, reviewing systems, implementing digital systems, helping colleagues with online communication and leading less confident colleagues. Younger teachers also reported being included in technology discussions, as their digital skills were highly valued within the organisation.

Nevertheless, older teachers (those over 40 years of age) had different experiences with digital decision-making. Some of the participants reported feeling overwhelmed if the technologies were introduced too rapidly or if it was expected that people would know how to use them without being taught. As one participant explained, “Sometimes when things get new, like new tools, they come out fast, and I need more time to learn and use them” (P8).

Centre B

In Centre B, there was more centralised, organised, and integrated leadership of digital technology decisions, linked to the centre's philosophy and operational priorities. P10 described the process: "I make these decisions in consultation with the governance committee." P16 described it more briefly: "Leadership decides." In contrast to Centre A, there was less focus on younger educators making decisions based on their digital expertise. Technology-related decisions were instead determined by compliance, administrative needs and organisational values about children's learning.

Leadership was repeatedly described as establishing boundaries and expectations for the use of technology. Limits on children's time on technology were intentionally maintained, and traditional, hands-on learning was embraced. The majority of participants felt leadership decisions were fair because all staff had access to the same technologies and training.

Comparative Analysis

Centre A accounts described educators contributing practical digital knowledge and assisting colleagues, while Centre B accounts emphasised leadership decisions and pedagogical boundaries.

4.4 Digital Confidence and Generational Differences

Digital confidence, meaning how confident participants were in using digital technologies, emerged as an important area of difference in participants' experiences of using technology across Centre A and Centre B. This was determined by how participants described themselves: their familiarity with digital systems, their perceived ability to complete technology-related tasks, their experiences of learning unfamiliar platforms, and the support they said they needed. It was not measured through a standardised assessment or numerical scale, and it does not indicate participants' actual digital competence. The age-related patterns reported in this section are drawn from these self-descriptions. Some participants reported greater familiarity with digital systems, while others needed additional time, practical demonstrations, or step-by-step guidance when learning unfamiliar technologies.

Centre A

Centre A participants' descriptions of their digital confidence differed by age. Younger teachers reported consistently high levels of technological confidence, adaptability, and comfort with online systems and communication tools. They described learning quickly, being knowledgeable about technology, leading online activities, and feeling competent in using technology such as Storypark, Zoom, Teams, and online documentation tools. Some of the

younger participants shared their enjoyment of using technology because it makes things more efficient, convenient and accessible, especially when it comes to communicating and recording daily work.

Older teachers, however, generally described themselves as "basic users" who required more help, slower teaching, and personalised instruction when using new digital technologies in the classroom. Some participants felt pressure and anxiety in keeping up with the fast-changing technologies and expectations in the workplace. "Sometimes I feel under pressure to keep up with others who are more familiar with technology," explained P9. Another participant said, "I am still learning to use digital technologies" (P5).

Younger teachers were frequently given the role of an informal support worker in the organisation. They shared their knowledge with colleagues, explained digital systems, and offered practical support to colleagues who were not as confident.

Centre B

There were also generational differences in participants' descriptions of their digital confidence at Centre B, though they were less pronounced than at Centre A. More often than not, older teachers and non-teachers expressed a desire for the "old-fashioned" methods of paper-and-pencil, face-to-face teaching, and slower-paced teaching styles. Some said that they would rather learn through face-to-face professional development because they felt online learning was rushed or confusing. One participant said it was helpful to learn when someone can sit down with them, explain things in detail and give them time to practice. Younger teachers were described as more adept at making online systems work for them and frequently helped those who were less tech-savvy. Even though the level of digital integration in Centre B was lower, there were implicit expectations that teachers could use digital tools competently for communication and documentation.

Comparative Analysis

In both centres, participants described differing levels of digital confidence. Generally, younger teachers described themselves as more confident with digital tasks and communication processes, while older teachers reported higher levels of anxiety and pressure, less participation, and greater reliance on others for help.

4.5 Professional Development and Support

Professional development, meaning the online and in-person training and learning opportunities available to staff, and support were mentioned by participants in both centres in relation to their experiences of digital technology. As participant P3 noted, “Everyone has access to training, but people learn at different speeds.”

Centre A

Professional development for teachers at Centre A had a particular focus on online/digitally based professional development options. Attending Zoom Professional Development Sessions, Teams Meetings, Storypark Training, and Online Communication Workshop and Educational Software Training were commonly mentioned activities. Staff were actively encouraged to undertake digital learning, and CPD at the centre was identified as key to ensuring good communication, documentation, and teaching practices. Overall, teachers' perceptions of online PD were positive, especially because it was convenient, flexible, and easily accessible, particularly for younger and more digitally literate teachers. Some of the learners shared their experiences of how online learning accommodated their schedules and helped them learn without disrupting their working lives.

Less digitally confident older educators and staff described a different experience. Participants expressed a strong preference for real-time, in-person learning where they could ask questions, observe demonstrations, and receive step-by-step guidance. In contrast, they felt that online training moved too quickly or assumed staff already had a certain level of digital competency, which made the learning experience less effective for some educators. Some teachers said that despite receiving peer professional development opportunities, they felt less confident or overwhelmed when performing specific tasks. Multiple participants reported that visual cues, written instructions, demonstrations, and repeated practice enabled them to learn more effectively.

Centre B

All Centre B staff received professional development, such as online and in-person training. However, face-to-face learning practices were highly preferred by participants compared to online professional development. Some of the teachers described themselves as learning better with direct explanations, learning by doing, greater support, and step-by-step explanations. There was a more practical focus on administrative systems and communication tools to support professional development in Centre B than on wider digital innovation or higher levels

of technological integration. The participants frequently expressed that patience, supportive collaboration, and a more relaxed learning pace were essential for developing confidence and minimising anxiety about using technology.

Comparative Analysis

Both centres offered professional development, but participants described varied training experiences. Centre A accounts focused more on online formats, while Centre B participants more strongly preferred face-to-face learning. Participants' feedback indicated that professional development and support were generally satisfactory; however, some educators felt that additional guidance, ongoing training, and more consistent opportunities would further strengthen their confidence and capability.

4.6 Inclusion, Exclusion, and Unequal Participation

The participants shared ideas on their opportunities and challenges of digital participation, meaning their involvement in technology-related work, including using digital tools and contributing to related tasks and decisions. In this section, formal access refers to having digital tools, accounts or training available, and meaningful participation refers to being able to use those tools confidently, with support and the opportunity to do so. Inclusion and exclusion refer to participants' accounts of being able, or feeling unable, to take part in digital practices at their centre. Exclusion here includes indirect experiences and does not imply that anyone was deliberately excluded.

Centre A

At Centre A, participants described both inclusion and indirect exclusion. All teachers were formally provided with access to digital tools, devices, training, and professional development. Staff engagement and collaboration were promoted through technologies such as Storypark, Zoom, Teams, and other online systems. Participants often reported a lack of parity in confidence levels. A teacher working with children aged 2 years and above (P6) said that "fairness also means recognising that some teachers, like me, need more support to feel confident using technology."

Digitally confident and younger teachers tended to feel more included, influential, and confident in organisational communication and documentation processes. They were able to adjust to new systems and to be helpful to others in the team. Some older teachers and less confident staff, however, felt somewhat anxious, reliant on colleagues, and hesitant and said

they participated slowly. Participant P8 explained they did not feel “intentionally excluded” but felt disadvantaged by the fact that younger workers were “more facile with the tools”.

Centre B

There was less clear evidence of digital exclusion in Centre B. Older teachers and those less familiar with technology, however, mentioned pressure to meet technology expectations. Young staff members approached the process patiently and step by step, which participants appreciated. Participant P16 expressed a preference for non-digital work: “I do not want more technology. Hard-copy work feels better”. Participation and comfort with training were generally perceived as fair.

Comparative Analysis

Centre A participants described access to digital platforms as part of everyday work, alongside differences in confidence and support needs. Centre B participants reported more selective use of digital tools, particularly for children’s learning activities.

4.7 Organisational Norms and Expectations

The participants talked about organisational norms, meaning the organisation's expectations that influenced which technologies they felt were useful and appropriate. The emphasis in Centre A accounts was on inclusion of digital systems in professional routines, and in Centre B accounts there was greater emphasis on purposeful use and hands-on pedagogy.

Centre A

The expectations for digital systems were high across Centre A, with staff confident that using digital systems would be a key part of their professional duties. Participants mentioned that digital competence has become intrinsically linked to the concept of professionalism, communication, administration, leading and documenting processes in the centre. Participant P1 associated fairness with communication and training: “As long as communication stays open and training is available, the process remains fair and balanced”. These expectations were not as strongly felt among younger teachers, as they were more accustomed to digital technologies and more willing to embrace the new systems. Technology was seen by many as convenient, efficient, and essential for teaching and communication. However, some participants described themselves as overwhelmed when new systems were implemented too rapidly or when digital competence was assumed rather than developed.

Centre B

Centre B expected educators to use digital tools responsibly, especially for communicating, documenting and administration. The organisational culture, however, focused much more on traditional teaching methods and practical learning experiences. Technology was seen as supporting, not as the focus of, teaching and learning. Participants commented that the purpose of the centre was to restrict children's access to technology and give greater emphasis on physical interaction, communication, creativity, and real-life experiences. The centre supervisor (P11) said: "We are satisfied with the limited technology for learning stories."

Comparative Analysis

Centre A adopted a more normalised approach to extensive digital engagement as part of professional identity and practice, whilst Centre B had more entrenched cultural expectations regarding the balanced and limited use of technology.

4.8 Balancing Technology and Hands-On Learning

Educators at both centres spoke of the need to find a balance among digital tools, play-based activities, and sensory- and relationship-focused early childhood learning. They were able to distinguish between technologies that educators employed for documentation, communication, and administration, and screen-based activities with children. These accounts concern educators' professional judgements; children were not participants in this study.

Centre A

Even with this extensive use of digital tools, participants continually emphasised the need to keep technology as a tool to support, not supplant, teaching and learning. Teachers noted that creativity, communication, relationships, active learning and in-person interactions remain critical to children's development. Some of the participants discussed how digital tools can be useful when used appropriately, for example, in enhancing parent engagement and making things more efficient in the organisation, but that they should not be a substitute for physical play, exploration, or social interaction. Referring to the age group they taught, a teacher working with children under 2 years said: "For my age group, I prefer using less technology and more hands-on teaching" (P7).

Centre B

At Centre B, there was a strong emphasis on reducing technology use and prioritising traditional, hands-on learning. Participants commonly explained that children learn best through physical interaction, communication, exploration, creativity, and real-life experiences. Educators working with children under 2 years of age particularly highlighted the importance

of sensory, movement-based, and face-to-face learning rather than digital tools. Some participants spoke about the dangers of excessive technology use and how it might limit learning interactions and affect children's learning experiences.

Comparative Analysis

In both centres, teachers were opposed to using technology as the sole tool in early childhood pedagogy. However, participants enjoyed digital technologies when they enabled communication, reduced workload, improved documentation, and enhanced whānau relationships.

4.9 Digital Technology as Empowerment and Pressure

Empowerment refers to participants' accounts of technology helping them communicate, document, work more efficiently, and develop professionally. Pressure refers to their accounts of stress, anxiety or fear of falling behind when using technology. Participants noted that digital technology improved communication, documentation, teamwork, efficiency, and professional development for many educators. However, the same systems also created pressure for educators who were less confident, slower to adapt, or more dependent on support.

Centre A

Digital technology was strongly linked to efficiency, flexibility, and professional ability in Centre A. Qualified teachers confidently described digital tools as very useful for communicating with whānau, documenting children's learning, administration, and teamwork. Positive experiences were noted with platforms such as Storypark, Zoom, Teams, Facebook, and online professional development as means of supporting educators in completing tasks more efficiently and communicating effectively with families and colleagues. Younger, technology-savvy educators generally portrayed technology as convenient, motivating, and easy to incorporate into their daily practice.

Less confident teachers described different experiences with digital technology. Limited digital skills were often reported by older teachers and staff who felt stressed, under pressure, dependent and afraid of falling behind. Some participants reported needing more time to adapt to new systems, more training time, and slower training.

Centre B

In Centre B, educators were more reserved and judicious in their use of technology. Digital tools were identified as beneficial for communication, administration, and documentation. The

Centre B supervisor (P11) said that technology "makes work faster, more convenient, and ensures teachers can complete tasks during work hours instead of taking work home". However, there were concerns about becoming overly reliant on technology and losing traditional, hands-on teaching and learning methods. Teachers highlighted the need to keep children engaged with one another, creative, and learning through real-life lessons, particularly for younger children.

Comparative Analysis

Centre A linked technology with efficiency and professional ability, and also described the pressure on less confident teachers. Centre B recognised practical benefits of digital communication, administration, and documentation while also emphasising selective use and the importance of direct interaction with children.

4.10 Chapter Summary

In this chapter, the main findings from Centre A and Centre B concerning the uptake and use of digital technologies in ECE settings in Aotearoa New Zealand were presented. Participants in both centres described leadership as influencing the adoption of technology, access to technological tools, professional learning, and expectations for technology use. Centre A had a highly digitalised practice; technologies were used in everyday practice, including Storypark, Zoom, Teams, and online communication systems, whereas Centre B used technology in a more balanced and limited way, with a focus on hands-on learning and limiting technology for children.

Participants' self-descriptions also showed differences in digital confidence. Educators who reported greater digital familiarity were sometimes readily able to take up new technologies and were approached by colleagues as a source of support in the centres. Less confident teachers and older teachers, on the other hand, sometimes described feeling under pressure, unsure, and challenged by the changing digital demands. Participants described varied experiences of professional development, with some valuing online learning and others preferring face-to-face support.

These findings are discussed in the next chapter in relation to the literature and theory, and their implications for practice and policy in ECE.

CHAPTER 5: DISCUSSION, IMPLICATIONS AND CONCLUSION

5.1 Introduction

This chapter discusses the findings in relation to the research questions, previous literature, and the Circuits of Power framework. It examines how leadership, organisational culture, professional development, and digital confidence shaped educators' participation in the use of digital technology. Rather than repeating the findings, the chapter explains what these patterns reveal about power, inclusion, exclusion, and digital inequality in ECE settings.

The Circuits of Power framework, developed by Clegg (1989) and adapted by Silva and Backhouse (2003), treats power as relational and identifies three interrelated circuits. The episodic circuit concerns causal power, where one agent makes another do something they would not otherwise do. It is identified mainly through resistance and depends on standing conditions, such as the positions agents hold and the resources they can deploy. The circuit of social integration concerns dispositional power, which is rooted in rules of meaning and membership. The circuit of systemic integration concerns facilitative power, which works through techniques of production and discipline such as surveillance, routinisation and formalisation. **Sections 5.2 to 5.5** take each research question in turn, moving from the relevant findings to the literature and then to the circuits that address it. **Section 5.6** examines how the circuits work together.

The results of this study suggest that the concept of digital participation is not limited to individual capacities in technology or digital literacy. Rather, broader organisational and structural factors – leadership, workplace culture, availability of digital resources, organisational expectations, and professional learning and support opportunities – shape educators' experiences with digital technology. The study also suggests that educators' self-described digital confidence is socially and organisationally shaped and not just a personal skill or attribute.

5.2 Research Question 1: Access and Meaningful Participation

Research Question 1 asks how educators describe their access to digital technologies and their opportunities to use them in their work. Participants in both centres described access to digital tools, but the accounts distinguish between formal availability and the practical opportunity to use tools confidently and participate in digital work. At Centre A, all teachers were reported to have formal access to digital tools, devices, training and professional development. At Centre

B, most participants considered leadership decisions fair because all staff had access to the same technologies and training. However, older Centre A teachers who called themselves "basic users" reported needing more help, slower teaching and personalised instruction, and older teachers at Centre B mentioned pressure to meet technology expectations. The interviews do not provide a verified inventory of devices, individual logins, or permissions; therefore, they cannot establish a quantified inequality in provision.

Centre A participants described technology as embedded in everyday documentation and communication, while Centre B participants described more selective use consistent with a preference for hands-on pedagogy. These differences concern organisational purposes and expectations, not proof that one centre denied educators' access.

The gap between availability and use is consistent with Lindeman et al. (2021), who suggested that digitalisation can lead to unequal professional experiences depending on teachers' confidence, institutional support and access to digital resources. It also aligns with Warsi and Rani (2024), who posited that teachers have varying degrees of readiness for digital learning.

The findings contain no account of an educator being refused a device or login. Through the Circuits of Power, this suggests that educators' opportunities to use technology depended less on whether tools were provided than on the meanings and routines surrounding digital work.

The circuit of social integration helps explain why formally equal access was not experienced as such. Rules of membership concern formal and informal status (Silva & Backhouse, 2003). Labels such as "basic users" and "naturally confident" placed educators in informal groups, and younger teachers were frequently given an informal support role. Practical access to digital work therefore appeared to depend partly on whether an educator was recognised as digitally capable.

The circuit of systemic integration draws attention to the tools themselves. Facilitative power derives from infrastructures and tools that enable or restrict practice (Henfridsson & Bygstad, 2013). Centre A's wider range of platforms opened digital work across communication, administration, curriculum development, professional development and documentation, whereas Centre B's narrower set of tools concentrated it in administration, compliance, communication and documentation. The framework suggests that digital systems divide people into users and non-users according to their roles and access rights. In this study, the reported division was less between users and non-users than between educators who described themselves as confident and those who said they needed support.

In answer to **Research Question 1**, educators described access as broadly available in formal terms but unevenly usable in practice. The key contribution is the distinction between having a platform available and being able to participate meaningfully in its use.

5.3 Research Question 2: Decisions and Institutional Control

Research Question 2 asks how leaders and educators describe how decisions about digital technologies are made and implemented. Accounts from Centre A emphasised routine use of digital systems; accounts from Centre B emphasised more deliberate limits on their pedagogical use. The Centre B manager described making these decisions "in consultation with the governance committee", and an unqualified teacher summarised the process as "Leadership decides". At Centre A, consultation with teachers, governance groups and whānau was described as typical, and supervisors with digital knowledge were actively engaged in decisions. These contrasting priorities show how leadership decisions can influence what technology is for and which practices are encouraged.

This supports Schilirò (2024), who stated that institutional priorities, leadership philosophies and organisational culture affect an organisation's approach to digital transformation, and Hatzigianni et al. (2023), who pointed out that digital adoption in ECE settings is determined by centre-level values, governance decisions and professional beliefs about children's learning. It also fits Markus (1983), who claimed that technology adoption is political because it reinforces and mirrors organisational interests, priorities and power.

Through the Circuits of Power lens, identifiable decisions about platforms and training can be considered episodic power (Silva & Backhouse, 2003). Power of this kind can also be seen in decisions about who may use devices, who receives a login and what each person is responsible for (Markus, 1983).

The episodic circuit is most visible at Centre B. The manager's position and the governance committee provided the standing conditions for not using learning-story applications, a choice the manager described as "intentional". The framework identifies this circuit mainly through resistance (Silva & Backhouse, 2003), yet little resistance was reported. The centre supervisor said, "We are satisfied with the limited technology for learning stories", and most participants felt leadership decisions were fair.

At Centre A, the manager delegated practical digital tasks to younger teachers, whom the manager described as "more advanced" and "naturally confident". This allocated responsibility for digital work, and the manager's position supplied the standing conditions for doing so. The

supervisors who reviewed and implemented systems and helped colleagues acted much like the system promoters or champions described by Silva and Backhouse (2003). Less confident educators did not describe refusing these systems, but one said that new tools "come out fast" and that they needed "more time to learn and use them". This concern was about the pace of adoption rather than opposition to it, so it is better read as strain on participation than as resistance in the episodic sense.

In response to **Research Question 2**, leaders and educators described decisions as led by managers, made in consultation with governance groups or staff, and implemented with little reported resistance.

5.4 Research Question 3: Inclusion and Exclusion

Research Question 3 concerns experiences of inclusion or exclusion. Some participants described confidence and colleague support as enabling their participation, while others described uncertainty or pressure when adapting to digital expectations. At Centre A, younger and digitally confident teachers tended to feel more included and influential, while one teacher said that "fairness also means recognising that some teachers, like me, need more support to feel confident using technology". Another participant did not feel "intentionally excluded" but felt disadvantaged. At Centre B, an unqualified teacher said, "I do not want more technology". Receiving help from colleagues should not automatically be treated as exclusion or evidence of a power imbalance.

These accounts are consistent with Alotaibi (2023), who established a strong relationship between educator confidence and digital technology adoption, although, in this study, confidence was self-reported rather than measured.

The circuit of social integration explains these experiences. Under rules of meaning, Centre A participants linked digital competence to professionalism, so educators who said they were "still learning" could feel at odds with what it meant to be a competent teacher. Under rules of membership, being recognised as digitally capable brought informal status: younger teachers reported being included in technology discussions because their skills were highly valued.

No participant described being deliberately shut out by a decision. Those who felt pressure to "keep up" were responding to an expectation of digital competence rather than an instruction from any individual. A preference for hard-copy work should not be read as exclusion either, because it may reflect personal or pedagogical choice.

The findings therefore indicate differences in experienced participation rather than a demonstrated pattern of formal exclusion. The evidence does not establish that digital confidence changed professional rank or decision rights. This distinction limits stronger claims about professional status while retaining the importance of educators' experiences.

In response to **Research Question 3**, educators experienced inclusion and exclusion through informal recognition and professional expectations, rather than through deliberate acts of exclusion.

5.5 Research Question 4: Organisational Norms, Routines and Support

Research Question 4 asks how organisational norms, routines and forms of support shape educators' digital participation. In Centre A, digital documentation and communication were described as ordinary work practices. In Centre B, educators placed greater emphasis on balancing digital tools with play-based and face-to-face learning. These accounts show how the meaning of appropriate technology use differs between organisational settings.

This supports Coelho et al. (2022), who suggested that relational power is embedded within organisational systems and manifests in day-to-day, taken-for-granted routines, practices and expectations. Hatzigianni et al. (2023) also reported that technology adoption is greatly influenced by organisational support and professional development.

Under the circuit of social integration, rules of meaning differed between the centres. At Centre A, digital engagement was treated as a normal part of professional practice. At Centre B, technology was seen as supporting teaching rather than being its focus, and one participant warned that "having too much technology can make teachers lazy". Silva and Backhouse (2003) note that users who view a system as "clerical" or "unimportant" may resist it because it undermines their status. Centre B's view of technology as an administrative and communication tool carries a similar meaning, although here it took the form of a shared limit rather than opposition to an adopted system.

The circuit of systemic integration explains how routines and tools shaped participation. At Centre A, digital systems were built into documentation and communication with whānau, and one teacher said they allowed staff to complete this work during centre hours. This shows facilitative power as productive, because it helped the centre achieve collective goals. The same routines created pressure for less-confident educators, showing that tools can both enable and restrict practice (Henfridsson & Bygstad, 2013).

A system becomes deeply embedded when it is an obligatory passage point, the only way to perform essential work (Silva & Backhouse, 2003). Storypark at Centre A and Infocare, MYOB and iPayroll at Centre B may have operated in this way, but the findings do not establish that these were the only means of completing the work. The findings also contain no accounts of digital surveillance of staff.

Forms of support also shaped participation. Centre A's emphasis on online formats suited those who described themselves as confident, while others felt it moved too quickly or assumed digital competency. Equal availability of training did not therefore produce equal experiences of it. Training, available support and the pace of change affected how participants described their engagement. However, the study did not independently audit centre budgets or infrastructure. Written policies and other centre documents were used as contextual material rather than as a separate body of evidence. The comparison therefore illustrates how reported expectations and support shape experience; it cannot establish sector-wide resource inequalities or causal effects.

In answer to **Research Question 4**, norms and routines appeared to shape what counted as appropriate digital participation, while the format and pace of support shaped who felt able to take part.

5.6 Cross-case Interpretation Through the Circuits of Power

Read together, the four questions suggest that formal access, professional meanings and everyday routines are connected but not interchangeable. A leadership preference may influence which digital activities are prioritised; that preference may become an expectation of competent practice; and repeated use can embed the activity in daily routines. These three steps correspond to the episodic, social integration and systemic integration circuits, and they appeared differently in each centre. Table 5 summarises how each circuit of power appeared in Centre A and Centre B, drawing on the findings reported in Chapter 4. Each row describes one circuit, gives the evidence for it at each centre, with the relevant Chapter 4 section in brackets, and lists the research questions it helps to answer. The episodic circuit relates to how decisions were made and implemented (Research Question 2). The circuit of social integration relates to access, experiences of inclusion and exclusion, and organisational norms (Research Questions 1, 3 and 4). The circuit of systemic integration relates to access and to the routines and support that shaped participation (Research Questions 1 and 4). The interviews provide accounts of

these elements, although they do not trace every stage of a specific decision from introduction to outcome.

Table 5: The Circuits of Power Across Centre A and Centre B

Circuit	Centre A	Centre B	Research questions addressed
Episodic (causal power)	Manager delegated practical digital tasks to younger teachers, and decisions typically involved consultation (Section 4.3). No system refusals were reported, although some educators wanted more time (Section 4.3).	The manager chose to limit the use of technology for learning stories (Section 4.2) and to make decisions in consultation with the governance committee (Section 4.3). Staff reported satisfaction with these limits (Section 4.7).	2
Social integration (dispositional power)	Digital competence was linked to professionalism (Section 4.7). Younger teachers' skills were valued, and they were included in technology discussions (Section 4.3), while some older teachers called themselves "basic users" (Section 4.4).	Technology was seen as supporting teaching rather than being its focus (Section 4.7). Most participants felt decisions were fair (Section 4.3), and teachers were implicitly expected to use digital tools competently (Section 4.4).	1, 3, 4
Systemic integration (facilitative power)	Digital tools were used daily in administration, communication, planning, compliance and documentation (Section 4.2). Rapid introduction of new systems created pressure (Sections 4.3, 4.7).	Digital tools were used mainly for administration, compliance, communication and documentation (Section 4.2). Limits on children's technology use were intentionally maintained (Section 4.3).	1, 4

The main cross-case finding is that power appeared to operate through agreement and routine more than through open conflict. At Centre B, a leadership decision was sustained because it matched shared professional meanings. A system must align with user identities and professional discourses to succeed (Silva & Backhouse, 2003), and technology should be limited to align with Centre B educators' commitment to hands-on learning. Decisions then became ordinary practice through routinisation and formalisation. The participant P1 said, "These technologies are used daily" (Section 4.2), while limits on children's technology use at Centre B were intentionally maintained (Section 4.3). At Centre A, routines made digital competence an expectation, and that expectation shaped informal status.

The comparison contributes a contextual explanation of why broadly available digital tools need not lead to identical experiences of participation. It also demonstrates a qualification: selective use of technology can reflect pedagogical judgement rather than digital exclusion. The Circuits of Power framework is used here to organise this interpretation, not to claim that every difference is caused by power.

5.7 Relationship to Existing Literature

Earlier scholarship discussed in **Chapter 2** addresses digital skills, access, professional learning and organisational influences on technology use. Compared with the literature reviewed in Chapter 2, the findings support some arguments, qualify others and leave some untested.

The findings support Chapter 2's account of how digital tools are used and governed. Digital tools serve pedagogical, administrative, and communication functions (Celik et al., 2023; Hatzigianni et al., 2023), and their use ranges from primarily compliance and administrative tasks to broader pedagogical practice (Hatzigianni et al., 2023). Centre A and Centre B sat at different points on this range (Section 4.2). The findings also support research showing that leadership strongly influences how digital technologies are implemented and used (Hatzigianni et al., 2023), as reflected in the decisions reported in Section 4.3.

Chapter 2 also argued that formalised expectations can favour digitally confident educators (Lindeman et al., 2021). This was reflected at Centre A, where digital competence was linked to professionalism and some educators felt pressure to keep up. Teachers with greater digital skills can also take on more digital responsibilities (Coelho et al., 2022; Markus, 1983), as seen when the Centre A manager delegated practical digital tasks to younger teachers. However, the findings do not indicate that less confident educators are moved to manual tasks, as UNESCO (2024) describes.

The findings qualify a simple deficit account of digital adoption: the issue is not always a lack of devices or willingness. The literature has given considerable attention to shortages of devices, connectivity, and logins (Hartnett & Fields, 2019; Lindeman et al., 2021). In this study, no educator reported being refused a device or login, yet differences in confidence and pressure were still described. Digital inequality may therefore be experienced even where formal access is reported. Chapter 2 also reported that professional development was allocated based on hierarchical position (Hatzigianni et al., 2023; Warsi & Rani, 2024). Participants' concerns

here were more about format and pace, which is consistent with Alotaibi's (2023) emphasis on training tailored to educators' needs.

The findings also qualify the view that limited digital use signals restricted access or a management-driven approach. UNESCO (2024) warns that adoption focused on administrative efficiency and compliance can make technology a management tool rather than a pedagogical one. Centre B's use was concentrated in administration, but its manager described limiting technology as intentional and pedagogically motivated. The literature also linked limited digital access to marginalisation and reduced sense of belonging (Alotaibi, 2023; Coelho et al., 2022; Lindeman et al., 2021). Some participants in this study instead expressed a preference for less technology, including one who said, "I do not want more technology", and a teacher of under 2s who preferred more hands-on teaching. This contrasts with research suggesting that digital technologies can be integrated into play-based and collaborative pedagogy (Li et al., 2024). Educators in this study, particularly at Centre B, tended to see digital tools and hands-on learning as competing rather than complementary. Participation can depend on how tools fit work routines, what support is available and whether digital use aligns with a centre's pedagogical priorities. This is consistent with Markus (1983) and Simeonova et al. (2022), who indicated that digital systems could enable and constrain organisational actors according to access, power, confidence and organisational structures.

The findings also refine existing accounts of power in the literature. Section 2.3.1 defined power as institutional ownership and control of digital resources (Hatzigianni et al., 2023; Orlikowski, 1992; Silva & Backhouse, 2003). The findings speak more to control than to ownership: leadership was described as influencing funding, training, expectations and the boundaries of technology use, but purchasing decisions were not traced. Jasperson et al. (2002) saw power as expressed in decision rights, authority, and influence, and this study found informal influence without evidence of changes in decision rights.

Simeonova et al. (2022) distinguish episodic from systemic power and suggest that technology can strengthen existing hierarchies. The findings point to a further dimension, the circuit of social integration, because rules of meaning and membership explained much of what participants reported. At Centre A, digital skill brought informal status, but the findings cannot show whether this reinforced or altered the formal hierarchy.

It is important to note that the current study did not examine socio-economic or geographic differences between services (Hartnett & Fields, 2019), or whether access to training varied by

employment status (Warsi & Rani, 2024). However, the two centres served different communities, and the existing literature has linked community context to both digital access (Hartnett & Fields, 2019) and the quality of ECE services available to families (Tang et al., 2024). These differences may therefore have influenced the contrasts reported here, alongside leadership and pedagogical priorities, and the study cannot separate their effects.

5.8 Implications for ECE Leadership and Practice

The findings suggest implications for leadership and practice in ECE. Because they point mainly to the circuits of social and systemic integration rather than to deliberate exclusion, the implications below concern meanings, routines, and support, as well as the provision of tools. The findings suggest that leadership, culture, professional development, digital confidence and workplace expectations shape digital participation. Thus, ECE leaders play a major role in developing inclusive digital environments.

One implication is that simply providing devices, platforms, and training does not equal inclusion. Leaders should look at who is confident about participating in digital decision-making, who needs extra help, and whose voice is not as clear in digital decision-making. Digital inclusion should be measured not only in terms of access but also in participation, confidence, and professional visibility.

ECE leaders also need to be mindful of educators' digital readiness. Some teachers adapt to new platforms rapidly; for others, it takes time, assurance and gradual guidance. Thus, technology implementation should be carried out gradually, and mentoring, peer support, practical demonstrations, and nonjudgmental learning environments are important supports.

Professional development should be more inclusive, as well. Not all training needs to be delivered online or at high speed. Rather, a blend of online learning, in-person assistance, written manuals, and repetition should be made available, along with time for the teacher to ask questions. This will help to ensure that professional learning is available to all teachers, not just digitally confident teachers.

The results also indicate that 'digital competence' should not be considered as the sole indicator of professional worth. There may be educators who are less confident with technology but have a high level of pedagogical knowledge, relational skills, cultural knowledge, and experience with children. Leadership practice should therefore prioritise a variety of professional knowledge and expertise and assist teachers to develop their digital confidence at their own pace.

Finally, ECE leaders should keep digital and hands-on practice in balance. Research in New Zealand schools similarly suggests that the conditions of use matter, including task selection, length of use and whether use is teacher-led (Cullen et al., 2024). Digital tools should be used to enhance communication and documentation, whānau engagement and professional collaboration, but not to replace play-based learning, creativity, physical interaction, and teacher-child relationships. Therefore, effective leadership in digital adoption involves both technology awareness and an embrace of the core principles of ECE.

5.9 Policy Implications

Results from this study have implications for the ECE sector at the policy level in Aotearoa New Zealand, as well as for digital transformation, educator support, and equitable participation in ECE. The results of this study offer an example of how digital participation in ECE spaces can take many forms, and how access to technology, as well as the culture, leadership, qualities, and confidence of the educators, influence these forms. Policymakers may therefore wish to consider the differing positions of the centre and the educator regarding digital technology.

An important implication is the need to recognise the differences in infrastructure and organisational capacity across ECE settings. Some generational differences were reported in digital confidence, and some teachers said they needed more time, support, and guidance to feel confident with digital systems. Policy that expects the same digital transformation from every centre may reproduce these differences.

Because this study draws on accounts from only two centres, it cannot establish national funding or infrastructure needs. Its practical implication is that local decision-makers may benefit from reviewing how digital resources, training and pedagogical priorities affect educators' opportunities to participate.

Furthermore, the research highlights the importance of promoting "developmentally appropriate" practices in ECE. Both centres stressed the importance of using technology to enhance and complement learning, communication, creativity, and real-life interactions. It is therefore important that policy not be based on the assumption that the growth of digital technologies will improve learning outcomes and/or the quality of education.

Within these limits, policy discussions could draw on the priorities of equity, inclusion, pedagogical balance, educator wellbeing and meaningful learning. The results suggest that a

balanced approach may support digital policy in ECE, combining technological innovations with the relational and play-based aspects of ECE.

5.10 Contribution to Knowledge

This study contributes to existing knowledge on the use of digital technology in ECE. It adds a two-centre comparison of how educators describe the purposes and expectations attached to digital participation. Its contribution is contextual rather than a new general theory or a statistical estimate of inequality. Much of the current discussion is on teachers' digital literacy, skills or attitudes towards technology. The results of this study suggest that leadership decisions, organisational culture, professional expectations, and organisational conditions also shape digital participation.

This study applies the Circuits of Power framework to digital adoption in ECE and examines how the episodic, social integration and systemic integration circuits interact to shape digital inclusion and exclusion. Chapter 2 noted that research on power in ECE is limited, so this application of the framework is the study's main contribution to that literature. This has the potential to offer a deeper understanding of digital inequality, as it suggests that access is not the only factor affecting educators' experiences of digital participation.

The study's theoretical contribution is its illustration of how power is exercised within the specific realms of decision-making, workplace norms, and organisational systems. Episodic power was seen in decisions regarding access, support, training, and responsibilities. Dispositional power was evident in assumptions about what it meant to be competent with digital technologies, who was considered professional, and what constituted valued participation. Facilitative power was seen in centre-level infrastructure, routines and approaches to technology use. The framework treats resistance as the main sign of the episodic circuit, but little resistance was reported here. This suggests that in these ECE centres, power over digital adoption was maintained largely through shared meanings and routines.

The research is also relevant to the existing research on digital inequality. The findings suggest a gap between formal access to technology and training and meaningful participation. Confidence, support, learning rate, expectations for the role, and organisational culture are among the areas where differences can lead to unequal participation. This is an extension of the definition of digital inequality as material access and emphasises its relational, cultural and organisational aspects.

Furthermore, this study contributes to ECE practice by showing that digital transformation should be viewed in the context of pedagogy. Technology in ECE is a tool that should be reviewed for its impact on relationships, communication, play, creativity, whānau engagement and the whole child's development as well as its efficiency and/or innovation.

In general, the study contributes to discussions on digital transformation, organisational power dynamics, and equity issues in ECE. It emphasises the importance of the pedagogy of technology integration through inclusive, supportive, and pedagogically balanced approaches.

5.11 Limitations of the Study

First, this qualitative study, which drew mainly on interviews documented as written records, was conducted in two ECE centres in Aotearoa New Zealand, with 16 participants. Its purposive sample provides contextual insight rather than statistical generalisability. Findings reflect participants' accounts and should not be treated as a direct measure of practices across the wider sector. The interviews were not audio-recorded. Responses were documented in writing, so the extracts in this thesis reproduce the wording of the written records, and some exact phrasing or nuance may have been lost.

Second, the study did not include classroom observations. The answers given by participants may have been influenced by their personal experience, memory, confidence, working relationships and/or the wish to portray themselves and their centre in a favourable light. Digital confidence was self-described and was not independently assessed. Participants may also have under-reported resistance, which limits what can be concluded about the episodic circuit. Document analysis and interview observational notes supported the study's credibility, but most of the results are based on participants' experiences.

Third, the study primarily targeted teachers and members of the leadership team. There was no participation from parents, whānau, children, governance committee members or external stakeholders. They might have brought greater understanding of the impact of digital technologies on communication, participation, decision-making, and relationships in ECE communities.

Fourth, the study contrasted two centres with different cultures and attitudes to digital technology. This comparison was found useful but would have been more informative with a larger sample of centres, if it had been possible to gain a broader picture of digital participation across various ownership, geographical, funding, and pedagogical types.

However, the study provides useful insights into the relationship between institutional power, organisational culture, digital confidence, and educator involvement in ECE digital adoption, which are applicable despite its limitations.

5.12 Recommendations for Future Research

Future research could be extended to further explore this study with more ECE centres from a wider geographical area within Aotearoa New Zealand. This would enable researchers to compare aspects of digital participation across centres with varying ownership structures, funding, leadership, and pedagogical philosophies.

A further study might also include a comparison of the rural and urban ECE settings. Digital inclusion can manifest in various ways, such as reliable internet connectivity, available infrastructure, technical support, professional development, and centre resources. Comparisons between rural and urban areas provide useful insights into the relationship between location and digital participation and inequality. Because the two centres in this study differed in location and funding (Section 3.4), future studies could compare centres that are similar on these characteristics, to separate their influence from that of leadership and pedagogical priorities.

Parental and whānau views could be included in future research. A whānau perspective would support a better understanding of the impact of digital technologies on relationships between whānau and ECE centres, as these technologies are shared and used for communication and for documenting children's learning.

Other studies might also explore children's experiences with digital technology in ECE. Identifying how children interact with, react to and make sense of digital tools would contribute to knowledge of developmentally appropriate technology use in early childhood settings.

Educator well-being is also an important area for future research. Longer-term studies could examine future changes in workload, stress, confidence, professional identity, and emotional well-being due to digital expectations. Longitudinal data is particularly valuable for gaining insight into how digital systems impact educators' work overtime.

Future research could also explore decision-making processes for digital tools within leadership teams, who is involved in decisions, and how educators with varying levels of digital confidence are represented. This would provide a better perspective on decision-making associated with the adoption of digital technologies. Observational studies could also test

whether educators resist digital systems in ways that interviews do not capture, and whether particular platforms operate as obligatory passage points.

5.13 Conclusion

This study examined how digital technologies were accessed, adopted and experienced by educators in two ECE centres in Aotearoa New Zealand. It drew on the accounts of 16 participants and interpreted them through the Circuits of Power framework. The two centres took different approaches. Centre A integrated digital technologies across most areas of its work, while Centre B limited their use to protect hands-on learning and face-to-face interaction.

In relation to Research Question 1, educators described access to digital technologies as broadly available in formal terms but unevenly usable in practice. No participant reported being refused a device or login. However, educators who described themselves as less confident said they needed more time, guidance and support to use digital systems. Their opportunities to use technology depended partly on whether colleagues recognised them as digitally capable.

In relation to Research Question 2, decisions were described as led by managers, made in consultation with governance groups or staff, and put into practice with little reported resistance. At Centre B, the decision to limit learning-story applications was accepted by staff because it matched their commitment to hands-on learning. At Centre A, practical digital tasks were delegated to teachers seen as more digitally confident.

In relation to Research Question 3, educators experienced inclusion and exclusion mainly through informal recognition and professional expectations. Digitally confident educators tended to feel more included and influential. Less confident educators described pressure to keep up, although none described being deliberately shut out. Some participants preferred less technology, which reflected personal and pedagogical choice rather than exclusion.

In relation to Research Question 4, organisational norms and routines shaped what counted as appropriate digital practice in each centre. At Centre A, digital competence was linked to professionalism. At Centre B, technology was seen as supporting teaching rather than being its focus. The format and pace of professional development also shaped who felt able to take part. Online training suited confident educators, while others preferred face-to-face, step-by-step support.

Across these questions, power appeared to work more through shared meanings and everyday routines than through open conflict. This suggests that providing digital tools is unlikely to be enough on its own to ensure meaningful participation. ECE leaders may also need to consider

the expectations attached to digital work, the pace of change and the kinds of support available. Technology should support, not replace, the relational and play-based foundations of ECE. These conclusions are drawn from two centres and are not generalisable to the wider ECE sector. They do, however, offer a contextual account of why educators with similar formal access to digital tools can experience digital participation differently.

REFERENCES

Alotaibi, M. S. (2023). Factors influencing early childhood educators' use of digital educational aids: A sequential explanatory study. *SAGE Open, 13*(4), 1–12. https://doi.org/10.1177/21582440231217727

Amrollahi, A., & Afshari Mofrad, M. (2023). Towards unravelling power dynamics in information systems research: A systematic literature review through the lens of activity theory. *ACIS 2023 Proceedings*, 16. https://aisel.aisnet.org/acis2023/16

Berger, R. (2015). Now I see it, now I don't: Researcher's position and reflexivity in qualitative research. *Qualitative Research, 15*(2), 219–234. https://doi.org/10.1177/1468794112468475

Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal, 9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Çelik, O. T., Candemir, B., Sağlam, M., Tunç, Y., Açar, D., & Kahraman, Ü. (2026). Focal points for digital technology integration in early childhood education: implications from practitioners' perspectives. *Education 3-13*, *54*(1), 169–185. https://doi.org/10.1080/03004279.2023.2290673

Clegg, S. R. (1989). Radical Revisions: Power, Discipline and Organizations. *Organization Studies*, *10*(1), 97-115. https://doi.org/10.1177/017084068901000106

Coelho, T. R., Pozzebon, M., & Cunha, M. A. (2022). Citizens influencing public policy-making: Resourcing as source of relational power in e-participation platforms. *Information Systems Journal*, *32*(2), 344-376.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Cullen, J., Marsh, S., Simmonds, L., & Duncan, S. (2024). The impact of digital technologies on children and adolescents in Aotearoa New Zealand: A case for best-practice recommendations for schools. *Waikato Journal of Education, 29*(1). https://doi.org/10.15663/wje.a1095

Education Review Office. (2021). *A guide to learning in a COVID-19 world: Supporting early childhood learners*. https://evidence.ero.govt.nz/documents/a-guide-to-learning-in-a-covid-19-world-supporting-early-childhood-learners-january-2021

Education Review Office. (2023). *Early childhood education sector survey report*. Education Review Office. https://oece.nz/archive/early-childhood-sector-confidence-survey-2023/

Hartnett, M., & Fields, A. (2019). Digital inclusion in New Zealand. *Journal of Open, Flexible and Distance Learning, 23*(2), 1–12.

Hatzigianni, M., Stephenson, T., Harrison, L. J., Waniganayake, M., Li, P., Barblett, L., Hadley, F., Andrews, R., Davis, B., & Irvine, S. (2023). The role of digital technologies in supporting quality improvement in Australian early childhood education and care settings. *International Journal of Child Care and Education Policy, 17*(5). https://doi.org/10.1186/s40723-023-00107-6

Henfridsson, O., & Bygstad, B. (2013). The generative mechanisms of digital infrastructure evolution. *MIS Quarterly, 37*(3), 907–931. https://doi.org/10.25300/MISQ/2013/37.3.11

Jasperson, J., Carte, T. A., Saunders, C. S., Butler, B. S., Croes, H. J., & Zheng, W. (2002). Power and Information Technology Research: A Metatriangulation Review1, 2. *MIS quarterly*, *26*(4), 397-459.

Li, H., He, H., Luo, W., & Li, H. (2024). Early childhood digital pedagogy: A scoping review of its practices, profiles, and predictors. *Early Childhood Education Journal*. https://doi.org/10.1007/s10643-024-01804-8

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE Publications.

Lindeman, S., Svensson, M., & Enochsson, A.-B. (2021). Digitalisation in early childhood education: A domestication theoretical perspective on teachers' experiences. *Education and Information Technologies, 26*, 1963–1983. https://doi.org/10.1007/s10639-021-10501-7

Markus, M. L. (1983). Power, politics, and MIS implementation. *Communications of the ACM*, *26*(6), 430-444.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Ministry of Education. (2024). *Early learning services and regulatory framework*.

New Zealand Government. (2022). *Regulatory review of early childhood education. https://www.regulation.govt.nz/assets/Publication-Documents/Regulatory-Review-of-Early-Childhood-Education-full-report.pdf*

Orlikowski, W. J. (1992). Duality of technology. *Organization Science, 3*(3), 398–427. https://doi.org/10.1287/orsc.3.3.398

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE Publications.

Schilirò, D. (2024). Digital transformation and its impact on organizations. *International Journal of Business and Management, 19*(6), 71–80. https://doi.org/10.5539/ijbm.v19n6p71

Silva, L., & Backhouse, J. (2003). The circuits-of-power framework for studying power in institutionalization of information systems. *Journal of the Association for Information Systems, 4*(1), 294–336.

Simeonova, B., Galliers, R. D., & Karanasios, S. (2022). Power dynamics in organisations and the role of information systems. *Inf. Syst. J.*, *32*(2), 233-241.

Stake, R. E. (1995). *The art of case study research*. SAGE Publications.

Tang, A., Rankin, P., Staton, S., & Thorpe, K. (2024). Access to high-quality early care and education: Analysis of Australia's national integrated data. *Early Childhood Research Quarterly, 69*, 1–15. https://doi.org/10.1016/j.ecresq.2024.02.001

The Organisation for Economic Co-operation and Development. (2025). *Education policy outlook 2025: Nurturing engaged and resilient lifelong learners in a world of digital transformation*. OECD Publishing.

UNESCO. (2024). *Technology in education: A tool on our terms! (Youth report)*. https://www.unesco.org/gem-report/en/publication/2024-youth-report

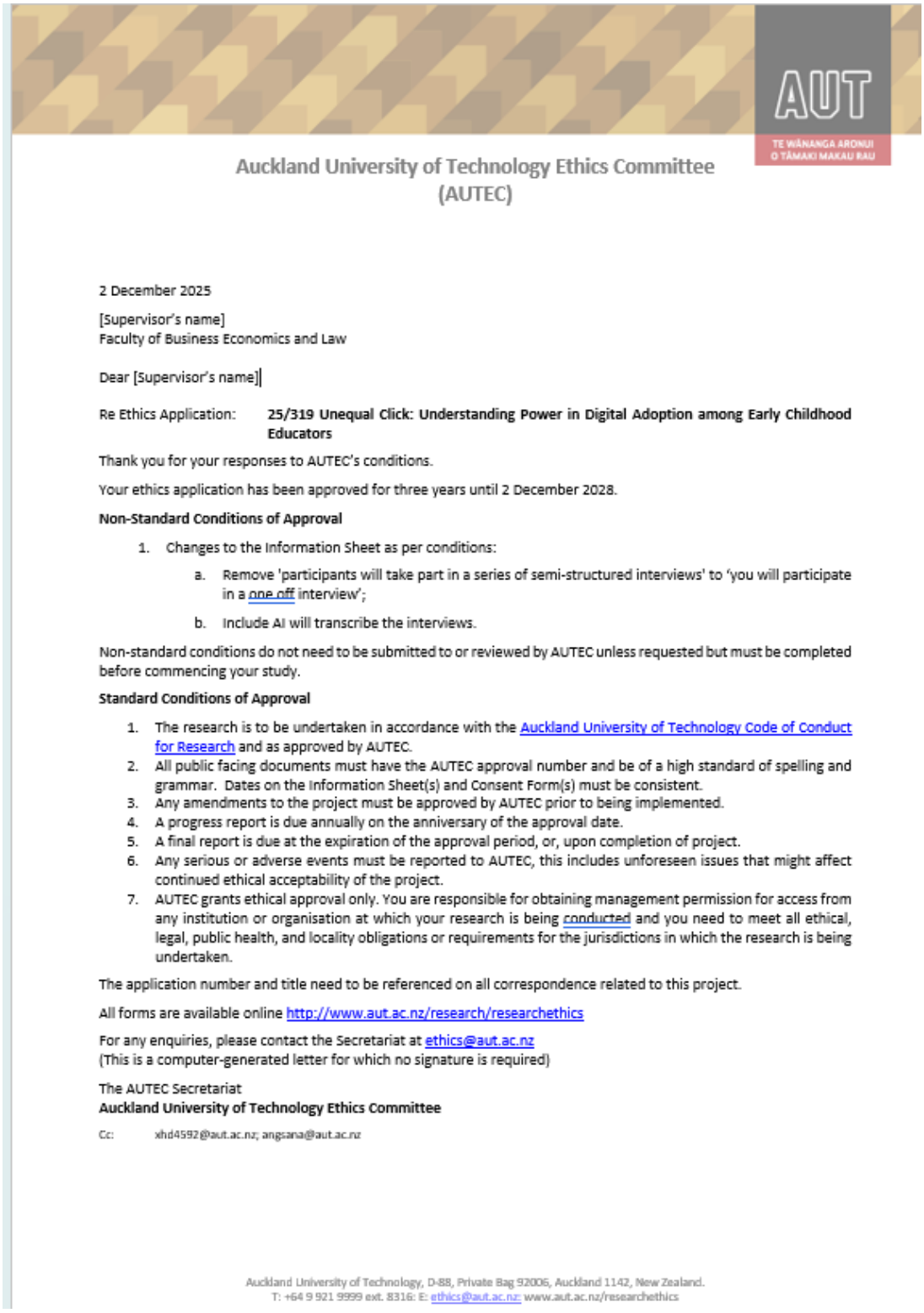
Walsham, G. (1995). Interpretive case studies in IS research: nature and method. *European Journal of information systems*, *4*(2), 74-81.

Warsi, L. Q., & Rani, Y. (2024). Analysis of teachers' readiness in using digital technology for students' learning: Problems and potential solutions. *Human Nature Journal of Social Sciences, 5*(2), 292–305.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.

APPENDICES

Appendix A: Ethics Approval letter



Auckland University of Technology Ethics Committee
(AUTEC)

2 December 2025

[Supervisor's name]
Faculty of Business Economics and Law

Dear [Supervisor's name]

Re Ethics Application: **25/319 Unequal Click: Understanding Power in Digital Adoption among Early Childhood Educators**

Thank you for your responses to AUTEC's conditions.

Your ethics application has been approved for three years until 2 December 2028.

Non-Standard Conditions of Approval

1. Changes to the Information Sheet as per conditions:
    a. Remove 'participants will take part in a series of semi-structured interviews' to 'you will participate in a one off interview';
    b. Include AI will transcribe the interviews.

Non-standard conditions do not need to be submitted to or reviewed by AUTEC unless requested but must be completed before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact the Secretariat at ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: xhd4592@aut.ac.nz; angsana@aut.ac.nz

Auckland University of Technology, D-88, Private Bag 92006, Auckland 1142, New Zealand.
T: +64 9 921 9999 ext. 8316: E: ethics@aut.ac.nz www.aut.ac.nz/researchethics

Appendix B (a): Interview schedule

Research topic: "Unequal Click: Understanding Power in Digital Adoption among Early Childhood Educators".

Potential interview questions

Section	Time	Purpose	Interview Questions
Introduction & Role Context	5–10 mins	Build rapport and understand participant's background	- Can you tell me a bit about yourself and your role at this centre? - How long have you been working in early childhood education? - What does a typical day look like for you?
Technology Use & Access	10–15 mins	Explore what technologies are used and how access is managed	- What kinds of digital technologies are used in your centre? - How often do you use these technologies? - Who decides which technologies are introduced or used? - Are there any technologies you wish you had access to but don't? Why?
Institutional Control & Decision-Making	10–15 mins	Investigate how control and allocation decisions are made	How are decisions made about introducing new technologies or allocating training? Can you share an example of a time when you felt included or excluded from a technology-related decision? - What role do leadership or external agencies play in shaping how technology is used in your centre? - How do you perceive the fairness of these decisions?
Professional Development & Support	5–10 mins	Understand training opportunities and perceptions of fairness	- What kinds of professional development have you received related to digital tools? - How did that training impact your confidence or ability to use technology? - How do you feel about the way training opportunities are offered across staff? - What kind of support would help you feel more empowered in using digital tools?
Rules, Norms, and Practices	5–10 mins	Examine cultural and procedural influences on technology use	- What formal or informal rules shape how technology is used in your centre? - Are there any unspoken expectations or norms that influence your comfort with digital tools?

			- Can you describe any practices that make it easier or harder to integrate technology into your work?
Responses to Inequity & Reflections	5–10 mins	Explore reactions to unequal access and gather final insights	How do you respond when you notice differences in access to digital tools among staff? - Have you ever taken steps to advocate for more equitable access or support? What happened? - What changes would you like to see in how digital technology is managed or supported? - Is there anything else you'd like to share about your experience with digital technology in early childhood education?

Appendix B (b1): Participant Information Sheet

Date that data collection will start: 01 December 2025

Project Title

Unequal Clicks: Understanding Power in Digital Adoption among Early Childhood Educators

Kia ora, greetings, Malo e lelei,

You are warmly invited to participate in a research study titled *Unequal Clicks: Understanding Power in Digital Adoption among Early Childhood Educators (ECEs)*. This study is being conducted by Nita Takai, a student at Auckland University of Technology (AUT), New Zealand, and a Manager at Tongan Catholic Chaplanicy Centre. the Auckland University of Technology (AUT), New Zealand, The research team also includes Dr. Talita Ekandjo, a Lecturer at AUT and supervisor for this project. The study forms part of the academic requirements for the Master of Business (Management) degree.

What is the purpose of this research?

This research explores how power is understood and exercised in the adoption of digital technologies by early childhood educators, particularly in preschool settings in New Zealand. Digital adoption refers to how well employers and employees in a business are educated in using digital technologies and platforms. It reflects how consistently and confidently these tools are integrated into daily workflows. For example, when employers are familiar with digital systems, their employees are more likely to engage effectively with digital services such as online banking, education, and healthcare. This becomes part of everyday practice. Therefore, the study, investigates how decisions are made, who influences those decisions, and how digital tools are used across different levels—by teachers, management, and policymakers. The study aims to understand the types of power (e.g. institutional, relational, technological) that shape digital adoption in early childhood education, explore how educators experience and respond to these power dynamics and identify opportunities to support equitable and informed digital practices in early learning environments. By learning from you, we aim to identify ways to support fair and well-informed use of digital technologies in early learning. The findings will provide insights into the challenges and opportunities educators face, and help shape recommendations for professional development, policy, and leadership in digital education.

The findings of this research may be used for academic publications and presentations, including conferences and journal articles.

How was I identified and why am I being invited to participate in this research?

You are invited to participate in this study because your organisation has agreed to take part, and you meet the following participation criteria: (a) you work in one of the two selected centres; (b) you are 18 years of age or older; (c) you have experience with or responsibility for using digital tools for teaching, documentation, or communication; and (d) you are employed as a centre leader, digital coordinator, full-time or part-time educator, or administrative/ICT support staff in an ECE centre in New Zealand.

How do I agree to participate in this research?

If you are interested in participating, please sign the Consent Form sent along with this Information Sheet. Please review both documents carefully before signing the Consent Form. You may return the signed Consent Form by responding to this email.

Your participation in this research is voluntary (it is your choice) and whether you choose to participate will neither advantage nor disadvantage you. You can withdraw from the study at any time by informing the Researcher. If you choose to withdraw from the study, then information collected up until your withdrawal from the study will continue to be used and included in the study to protect its quality / you can ask for information

collected up until your withdrawal from the study to be deleted unless you withdraw after the study analyses have been undertaken.

What will my participation involve?

As part of the research project, titled *"Unequal Click: Understanding Power in Digital Adoption among Early Childhood Educators*,**"** participants will take part in a series of semi-structured online interviews. These interviews will explore how early childhood educators engage with digital technologies, the factors that influence their adoption or resistance, and how power dynamics play a role in shaping digital practices within educational settings. The interviews will be conducted virtually via video conferencing platform, Microsoft Teams, and will each last approximately 45–60 minutes. Participants may be asked to do a member check to confirm whether the interpretations are correct or clarify misunderstandings. The interview questions will centre around themes such as (a) educators' experiences with digital platforms; (b) training and support structures; (c) institutional expectations vs. personal practice; (d) feelings of agency and control in tech usage and (e) challenges and enablers of digital adoption.

What are the benefits?

Taking part in this research may benefit you, the researcher, and the wider early childhood community. For you as a participant, the study provides a chance to share your experiences, views, and any concerns you may have about using digital technologies in early childhood education. Your input may help strengthen digital access and professional development opportunities within the sector. The researcher also benefits from your insights, as they help build a deeper understanding of how digital technologies are used in everyday practice. More broadly, the findings may support centre leaders and policymakers by showing how organisational practices shape equitable digital adoption. This may contribute to strategies that reduce digital inequality and enhance teaching quality and family engagement across a range of early childhood settings.

What are the costs?

Participation in this research study will primarily involve time spent in online interviews. Each interview will last approximately 45 to 60 minutes. The total time commitment is expected to be no more than 2 hours. Because the interviews will be done entirely online, participants will not incur costs for transport, parking, or accommodation. No reimbursement for incidental costs is required.

Will the results of the study be published?

The results of this research will be published in a Master's thesis. This thesis will be available to the general public through the AUT library. Results may be published in peer-reviewed, academic journals. You will not be identifiable in any publication.

What are the discomforts and risks?

This study does not involve physical risk. Participants will be asked to share their experiences with digital technologies at work. Some topics, such as limited access to digital tools or workplace practices, may touch on moments of frustration or stress. While most participants are unlikely to find this distressing, some may experience mild discomfort when reflecting on personal or professional challenges.

How will these discomforts and risks be alleviated?

To make sure you feel safe and supported you can skip any question or stop the interview at any time or withdraw from the study if you feel uncomfortable. There will be no consequences. Everything you share will be kept private. Your name and identity will not be included in the research. The interviewer will speak with kindness, respect and will remain attentive throughout the interview to monitor for any signs of discomfort. If you seem uncomfortable, interviewer will pause or change the topic.

What will happen to information about me?

All data collected for this study, including interview recordings, transcripts, field notes, and documents, will be securely stored on AUT's approved OneDrive system. This system is password-protected and complies with AUT's data security protocols. No data will be stored on personal devices, unencrypted drives, or external cloud

services, and it will not leave New Zealand at any point during or after the research. Only the principal investigator (Nita Takai) will have access to the raw data. Project supervisor with have access to anonymised data.

Identifiable information such as your name, email address, and some demographic details (e.g., your role, how long you have worked at the center, and your daily activities) will be collected. However, your name and organszation will be replaced with pseudonyms before analysis and in all the outputs. Only the primary researcher will know the link between your name and pseudonym, and this list will be kept securely to allow identification if needed.

You will not be anonymous during the interview, but confidentiality will be strictly maintained. Interviews will be conducted online to ensure privacy, and no personal identifiers will appear in any research outputs (e.g., thesis). You will also have the opportunity to review and edit your transcript if you wish. Your center will also not be named in any output and will be given a pseudonym.

The consent forms, information sheets and interview data will be kept for six years and then securely deleted from OneDrive. It will not be used for any other research, stored in open repositories, or linked with other data sources. Your identifiable information will only be disclosed with your permission or if required by law. By signing the consent form, you agree to the use of your information as described in this information sheet.

What opportunity do I have to consider this invitation?

You will be given two weeks to consider this invitation to participate. This timeframe allows you to reflect on the study's purpose, your potential involvement, and any questions you may have before deciding whether to take part.

Will I receive feedback on the results of this research?

Participants will receive the summary of findings via email. The primary researcher will send the summary of findings to both the organisation and participants separately via the emails they have provided.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Talita Ekandjo, talita.ekandjo@aut.ac.nz

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, ethics@aut.ac.nz , (+649) 921 9999 ext 6038.

Who do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Nita Takai, xhd4592@aut.ac.nz

Project Supervisor Contact Details:

Supervisor, Talita Ekandjo , talita.ekandjo@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on02 December 2025, AUTEC Reference number 25/319

Appendix B (b2): Organisation Information Sheet

Date that data collection will start: December 2025

Project Title

Unequal Clicks: Understanding Power in Digital Adoption among Early Childhood Educators

Kia ora, greetings, Malo e lelei,

You are warmly invited to participate in a research study titled *Unequal Clicks: Understanding Power in Digital Adoption among Early Childhood Educators (ECEs)*. This study is being conducted by Nita Takai, a student at Auckland University of Technology (AUT), New Zealand, and a Manager at Tongan Catholic Chaplanicy Centre. the Auckland University of Technology (AUT), New Zealand, The research team also includes Dr. Talita Ekandjo, a Lecturer at AUT and mentor for this project. The study forms part of the academic requirements for the Master of Business (Management) degree.

What is the purpose of this research?

This research explores how power is understood and exercised in the adoption of digital technologies by early childhood educators, particularly in preschool settings in New Zealand. Digital adoption refers to how well employers and employees in a business are educated in using digital technologies and platforms. It reflects how consistently and confidently these tools are integrated into daily workflows. For example, when employers are familiar with digital systems, their employees are more likely to engage effectively with digital services such as online banking, education, and healthcare. This becomes part of everyday practice. Therefore, the study, investigates how decisions are made, who influences those decisions, and how digital tools are used across different levels—by teachers, management, and policymakers. The study aims to understand the types of power (e.g. institutional, relational, technological) that shape digital adoption in early childhood education, explore how educators experience and respond to these power dynamics and identify opportunities to support equitable and informed digital practices in early learning environments. By learning from you, we aim to identify ways to support fair and well-informed use of digital technologies in early learning. The findings will provide insights into the challenges and opportunities educators face, and help shape recommendations for professional development, policy, and leadership in digital education.

The findings of this research may be used for academic publications and presentations, including conferences and journal articles.

How was I identified and why am I being invited to participate in this research?

You are invited to participate in this study because you (organisation) have informally agreed to take part in the study.

How do I agree to participate in this research?

If you are interested in participating, please sign the Consent Form sent along with this Information Sheet. Please review both documents carefully before signing the Consent Form. You may return the signed Consent Form by responding to this email. Organisation participation in this research project is voluntary, and your organisation does not have to accept this invitation if it does not want to participate. If you do decide that your organisation will participate, you have the right to:

- ask any questions about the study at any time;
- withdraw your organisation's participation from this research project within two weeks after the interviews have concluded at your organisation, and all data about your organisation will be destroyed or returned to you. However, individual participants from your organisation retain the right to decide if their data will be withdrawn and;

- be able to read any report originating from this research.

What will my participation involve?

Your organisation can contribute meaningfully by serving as a case study site and providing access to educators and leadership staff who engage with digital technologies in their work. You can support this research by providing access to your staff, distributing an invitation email that the researcher will draft and send to you and providing access to relevant documents (such as technology use policies or training plans), if available. Interested participants will respond directly to the Principal Investigator via email that will be provided in the invitation email. All interested participants will receive an information sheet and consent forms. Participants will be asked to take part in a semi-structured online interview (45-60 minutes). These interviews will explore how digital tools are used in teaching, planning, communication, and administration, and how power relations—such as access to resources, training, and decision-making—shape digital adoption.

Participation in this research project is voluntary, and each participant will be asked to provide consent before their involvement in the research. All research data will be treated with strict confidentiality. Pseudonyms will be used for both individuals and the centre to protect identities. Your involvement will help generate valuable insights to inform equitable digital adoption strategies, policy development, professional learning, and technology design tailored to the needs of early childhood educators.

What are the benefits?

Taking part in this research may benefit your organisation, participants the researcher, and the wider early childhood community. For participants, the study provides a chance for them to share their experiences, views, and any concerns you may have about using digital technologies in early childhood education. Their input may help strengthen digital access and professional development opportunities within the sector. The researcher also benefits from their insights, as they help build a deeper understanding of how digital technologies are used in everyday practice. More broadly, the findings may support centre leaders and policymakers by showing how organisational practices shape equitable digital adoption. This may contribute to strategies that reduce digital inequality and enhance teaching quality and family engagement across a range of early childhood settings.

What are the costs?

Participation in this research study will primarily involve time spent in online interviews. Participants will be asked to take part in a semi-structured online interview, lasting approximately 45 to 60 minutes. The total time commitment is expected to be no more than 2 hours. Because the interviews will be done entirely online, participants will not incur costs for transport, parking, or accommodation. No reimbursement for incidental costs is required.

Will the results of the study be published?

The results of this research will be published in a master's thesis. This thesis will be available to the general public through the AUT library. Results may be published in peer-reviewed, academic journals. You will not be identifiable in any publication.

What are the discomforts and risks?

This study does not involve physical risk. Participants will be asked to share their experiences with digital technologies at work. Some topics, such as limited access to digital tools or workplace practices, may touch on moments of frustration or stress. While most participants are unlikely to find this distressing, some may experience mild discomfort when reflecting on personal or professional challenges.

How will these discomforts and risks be alleviated?

To make sure participants feel safe and supported participants can skip any question or stop the interview at any time or withdraw from the study if their feel uncomfortable. There will be no consequences. Everything participants share will be kept private. Their names, your organisation's name and identity will not be included in the research. The interviewer will speak with kindness, respect and will remain attentive throughout the interview to monitor for any signs of discomfort.

What will happen to information about your organisation?

All data collected for this study, including interview recordings, transcripts, field notes, and documents, will be securely stored on AUT's approved OneDrive system. This system is password-protected and complies with AUT's data security protocols. No data will be stored on personal devices, unencrypted drives, or external cloud services, and it will not leave New Zealand at any point during or after the research. Only the principal investigator (Nita Takai) will have access to the raw data. Project supervisor with have access to anonymised data.

Participants' identities will be anonymised in all reports and publications. Your centre will also be assigned a pseudonym to ensure confidentiality. While your centre's name will not appear in any public documents, please note that in a small-scale study involving a limited number of centres, complete anonymity cannot be guaranteed. All data will be securely stored and destroyed five years after the completion of the study. Individual contributions will remain confidential from the organisation, ensuring participants can speak openly and honestly.

The Consent forms and research data will be stored separately. This helps protect ensure that identifying information (like organisational names, individual's names or signatures on consent forms) is not kept with the actual research data. They will be retained for six years. This is often a legal or institutional requirement for record-keeping data will be kept for six years and then securely deleted. It will not be used for any other research, stored in open repositories, or linked with other data sources. Your identifiable information will only be disclosed with your permission or if required by law. By signing the consent form, you agree to the use of your information as described in this information sheet.

What opportunity do I have to consider this invitation?

You will be given two weeks to consider this invitation to participate. This timeframe allows you to reflect on the study's purpose, your organisation's potential involvement, and any questions you may have before deciding whether to take part.

Will I receive feedback on the results of this research?

Participants will receive the summary of findings via email. The primary researcher will send the summary of findings to both the organisation and participants separately via the emails they have provided.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Talita Ekandjo, talita.ekandjo@aut.ac.nz

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, ethics@aut.ac.nz , (+649) 921 9999 ext 6038.

Who do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Nita Takai, xhd4592@aut.ac.nz

Project Supervisor Contact Details:

Supervisor, Talita Ekandjo , talita.ekandjo@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 02 December 2025, AUTEC Reference number 25/319

Appendix B (c): Consent Form

For use when interviews are involved.

Project title: Unequal Click: Understanding Power in Digital Adoption among Early Childhood Educators.

Project Supervisor: ***Dr Talita Ekandjo***

Researcher: ***Nita Takai***

- I have read and understood the information provided about this research project in the Information Sheet dated (date to be added before sending to participants)
- I have had an opportunity to ask questions and to have them answered.
- I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- I agree to take part in this research.
- I wish to receive a summary of the research findings (please tick one): Yes No

Participant's signature: .....……

Participant's name: .....……

Participant's Contact Details (if appropriate):

……..

……..

……..

……..

Date:

Approved by the Auckland University of Technology Ethics Committee on 02 December 2025, Reference number : **25/319**

Note: The Participant should retain a copy of this form.

Appendix B (d): Permission for researchers to access organisation staff

Project title: ***Unequal Clicks: Understanding Power in Digital Adoption among Early Childhood Educators.***

Project Supervisor: ***Dr Talita Ekandjo***

Researcher: ***Nita Takai***

- I have read and understood the information provided about this research project in the Information Sheet dated [date to be added before sending to participants]
- I give permission for the researcher to undertake research within _____
- I give permission for the researcher to access the staff / students / employees of_____

Principal's CEO's signature

.....……

Principal's CEO's name: .....…….

Principal's CEO's Contact Details (if appropriate):

……..

……..

……..

……..

Date:

***Approved by the Auckland University of Technology Ethics Committee on 2nd December 2025, Reference number* 25/319**

Note: The head of the organisation should retain a copy of this form.

Appendix B (e): Email to Centre's Employee

DRAFT EMAIL TO CENTER'S EMPLOYEES

Subject: Participation in Research on Digital Technology in Early Childhood Education

Dear Colleagues

I am pleased to share that our centre will be participating in a research project conducted by Nita Takai, a master's student at Auckland University of Technology and Manager at the Tongan Catholic Chaplaincy Centre. The study explores how power is understood and exercised in the adoption of digital technologies in early childhood education, particularly in preschool settings across Aotearoa New Zealand.

The research examines how decisions about digital tools are made, who influences those decisions, and how technologies are used by teachers, leaders, and policymakers. The goal is to identify practical ways to support equitable, informed, and empowering digital practices in early learning environments.

We are proud to contribute to this important work, which will help inform professional development, policy, and leadership in digital education.

If you are interested in learning more about the study or would like to participate, please contact Nita directly at xhd4592@aut.ac.nz. Nita will provide you with an information sheet and consent form outlining what participation involves.

Warm regards,

[Center Manger information here]