

UNSCRIPTED FUTURES

Learning From Change in New Zealand Screen Education and Practice

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ABSTRACT

In this time of continuous and accelerating change disrupting virtually every industry and every household, dramatic upheavals are occurring in the ways screen media are created and consumed. Screen technology continues to rapidly evolve in sophistication and capability, which in turn is transforming every step of the screen pipeline from ideation to user engagement. How are these ongoing changes affecting screen workers and screen educators? And how do we prepare screen students to enter a constantly shifting landscape?

This Hermeneutic Phenomenological study aims to gain understanding into change within both the screen industries and screen education in New Zealand. As a result, it aims to attain insight into how best to foster resiliency in the screen practitioners of tomorrow. The research addresses the question: How have people who work in support of New Zealand's screen industries experienced change in these industries and how might these experiences be used to promote greater adaptability amongst future screen practitioners? Data collection involved semi-structured interviews with a wide range of individuals active in or on the periphery of the New Zealand screen industry. These included film industry veterans, screen educators, graduates of screen programmes, digital moving image practitioners, and people who work in funding and advocacy roles. The study therefore takes a multi-perspectival look at the lived experience of change.

The research employs Reflexive Thematic Analysis to unpack the effects of accelerating change and increasing complexity on the processes of both screen practice and screen education in New Zealand. The findings indicate that resilience to change amongst the next generation of screen practitioners could be greatly enhanced when screen education offers self-efficacy training in addition to discipline-specific knowledge in the development of creative and technical skills.

The significance of this study is that it informs our understanding of the connection between change, resilience, and self-efficacy. The potential contribution of this study extends well beyond the screen discipline. As ongoing change continues to background a world coloured by volatility, uncertainty, complexity, and ambiguity, the need for methodical approaches for fostering resilience permeates many domains, particularly the creative practices.

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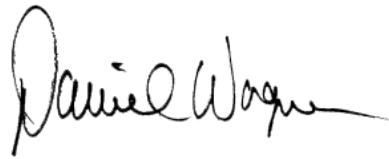
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ATTESTATION OF AUTHORSHIP

“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 material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.”

Signature:

A handwritten signature in black ink that reads "Daniel Wagne". The signature is written in a cursive style with a long horizontal flourish at the end.

Date:

17th November 2024

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My appreciation for my stalwart supervisors Drs. Andy Connor and Anna Jackson is canyons deep and oceans wide. A thousand thank yous for sticking with me through often strange times in adverse conditions. Much has transpired in all three of our lives since we first began, but the steadfastness of your support for this project has been unwavering. Thank you for your wisdom and perspective throughout this process.

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This research was approved by the AUT Ethics Committee on 7 March 2022 and assigned reference 22/36.

ABBREVIATIONS AND DEFINITIONS

PARTICIPANT CATEGORIES

The participants in this study are organised into five categories, listed here with their abbreviations, for quick reference:

- FIV: Film Industry Veterans
- DMIP: Digital Moving Image Practitioners
- SIS: Screen Industry Supporters
- SE: Screen Educators
- SG: Screen Graduates

GLOSSARY OF SCREEN TERMS mentioned in this thesis

Production Roles

- DOP: Director of Photography (a.k.a. Cinematographer) – UK & NZ abbreviation
- DP: Director of Photography (a.k.a. Cinematographer) – US abbreviation

Cameras & camera-related tools

- Alexa: High-end digital cinema camera by Arri (sometimes referred to as an “Arri”)
- BlackMagic: Mid-level digital cinema camera
- FX-7: Mid/high-end digital cinema camera by Sony
- RED: Another medium/high-end digital cinema camera
- Glidecam: Camera stabilisation system, modelled after Steadicam, but cheaper
- Ronin: Gimballed camera stabiliser
- Teradek: Wireless transmitter-receiver system to view what a camera is shooting

Post-production equipment

- NLE: Non-linear editing system
- Flame / Inferno / Harry / Henry: Early digital video effects systems

Other Screen Terms

- HD: High Definition video
- 360 captures: a way to acquire and reproduce an image that can be viewed 360° around. Similar to Virtual Reality but less interactive.

MĀORI TERMS mentioned in this thesis

- Tikanga: Correct procedure, custom, habit, lore, method, manner, rule
- Te Reo: The Māori language
- Māoritanga: Māori culture, Māori practices and beliefs, Māoriness, Māori way of life

OTHER ABBREVIATIONS

- VUCA: Volatility, Uncertainty, Complexity and Ambiguity
- ROVE: Reform of Vocational Education

MY NOMENCLATURE

Here is a clarification of my usage of the following terms:

FILM

This word “film” has taken on different meanings in its use over the years:

- As a form of creative expression (“I love film”);
- The name of the motion picture industry (“I work in film”);
- In reference to a single movie (“What’s your favourite film?”);

- The physical medium that was used for over a century to shoot, post-produce, and exhibit movies (“Very few features are shot on film anymore.”)

It will be used in this thesis in each of the above connections, depending on the context, and may be used interchangeably with the terms “moving image” and “content”.

CONTENT

Content has always been a controversial term that refers to a variety of media, most of which resides online (Goliner, 2015; Long, 2018; Murray, 2012; Walker, 2024). Among the Cambridge Dictionary’s definitions of Content are “information, images, video, etc. that are included as part of something such as a website” and also simply “everything that is contained within something” (Cambridge University Press, n.d.). When there is a more accurate or appropriate word to apply to a film or other work involving moving image, I will use it. But when a generic term is most appropriate, I will refer to it as “content”.

PRODUCTION / SCREEN CREATION

The creation of screen content, be it a feature film or short-form content for TikTok or Instagram, normally occurs in a three-stage process: pre-production, production and post-production. These stages could be also described as planning, shooting and editing. However, to call the third stage simply editing is to omit other important post-shooting elements such as visual effects, audio post-production and grading. In this thesis, I will specify the stage of creation if it is relevant to the particular context. However when speaking of the whole process of making screen content, I will use either screen production as a shorthand catch-all term or I will use screen creation. The choice between these two will be based on the context.

FORMS

By the term FORMS, I’m describing a manner of expressing ideas and emotions through the use of moving image and sound through which said content is expressed. Film, in the sense of Cinema, is a form. Web series is another form.

PLATFORMS

I will use the word PLATFORM, in the sense of media platforms, to refer to a vehicle for dissemination and/or exchange of content. This includes one-to-many platforms such as

streaming services or many to many platforms such as YouTube. Social media, often considered a platform in itself, is actually comprised of different sub-platforms that enable user/makers to interact in different ways. In this sense, each social media brand, offering its own unique combination of functionalities, can be considered a platform on its own. Snapchat is a platform; Instagram is a different platform. Cinema, the original vehicle for conveying moving image, is also a platform. The word will be used in any of these contexts as appropriate.

SCREEN

What was once merely referred to as ‘film and television’ has evolved, grown and morphed, and now needs a term to describe it that can encompass a wider array of platforms. For the purposes of this research, I will refer to the broader aggregation of platforms interchangeably as screen and/or moving image. The use of the word Screen encompasses cinema, television, computer screens, and also, of course, smartphones and tablets. When appropriate, I will specify which of these I’m referring to. But when used generically, I will be describing the phenomenon of the screen as a vehicle through which we receive culture and through which we interact with one another.

SCREEN INDUSTRIES

There is not one screen industry, there are several. The endeavour of creating content for screens is stratified. It is pursued on a variety of scales; the content produced is aimed at a variety of audiences; the production budgets range from \$0 to into the many millions; there are many delivery platforms for which screen content is targeted; the way users engage with screen content falls across a wide range, from being a viewing audience to a user-maker who is mixing and mashing up the content of others and spreading it through their own networks. Therefore, I find it more appropriate to refer to the screen industries as a plural noun.

PERSONAL STATEMENT

I was a practitioner in what is loosely referred to as the entertainment industry from 1973 to 2004. I have worked in different media, including studio-based broadcast TV; radio; portable analogue video; film; and digital video. The contexts in which I have worked have ranged from non-profit to highly commercial; from no-budget art to high-budget gloss; from journalism and social justice-focused advocacy-oriented content to TV commercials and mainstream motion pictures.

I am now a senior lecturer in Cinematography and Emerging Technologies at Unitec Institute of Technology, where I've been since 2005. I am course coordinator for the Camera curriculum (which trains for the jobs of Cinematographer, Camera Operator, 1st Assistant Camera (Focus Puller), 2nd Assistant Camera, Data Wrangler, Gaffer, Lighting Assistant, Grip and Behind-the-Scenes Photographer/Videographer). I also have just completed a four-year stint as the Discipline Lead (another name for Programme Coordinator) of the entire Screen Arts programme, which consists of six specialisations (Writing, Directing, Production, Camera, Sound and Editing), each of which have sub-specialisations of their own, such as those I listed just above with Camera. I served in academic leadership roles from 2016 through 2023.

Over the years that I worked exclusively with film, apart from the occasional development of a new filmmaking tool, the technology and methods remained stable and consistent. Sure, digital film had been introduced; the first all-digital Hollywood feature was Star Wars Episode II: Attack of the Clones. But the way we shot films remained stable, as it had been for many decades.

When I moved with my family to New Zealand in 2004 and began teaching Camera, I felt confident that my quarter-century of screen experience in a wide variety of production scenarios and locations would provide a sufficient foundation from which to teach the next generations of filmmakers the complex and nuanced ways of this industry. True, digital was gaining more and more of a solid hold in the workflow. But these were merely shifts in the tool set, I reasoned. Surely the time-tested methods by which film and television was created could not change all that much.

As I began research to develop a curriculum, the pre-shocks of a major land shift were already beginning to rattle the cinema world internationally. Before long, new types of cameras were giving way to new methods of shooting; YouTube was born; social media proliferated; streaming services became a thing; DSLR's blew open the gates for independent filmmakers; digital resolution began going through the roof across acquisition, post-production, and exhibition; there were suddenly more digital cinema cameras than ever; fewer and fewer films were being shot, post-produced or even exhibited on film; the list goes on. Suffice to say that the pre-shocks I felt when we arrived in New Zealand had become a major tectonic plate shift. Change was afoot.

Throughout both major sections of my career (the entertainment industry part and the education part), I have seen continually unfolding changes, both in philosophical approaches to craft and in methods of practice, and I continue to see increasingly rapid evolution in "the tools of the trade". Many of these changes will be discussed in other parts of this thesis. This section touches on my personal experience of change.

Aside from my sixteen years as a focus puller in the Los Angeles film industry and my twenty years as a screen educator in the Auckland polytech sector, the average length I've stayed within one medium or context is about three years. In this respect, I've not only seen and experienced waves of change within the industries in which I've worked, but I, myself, have embodied change throughout my career. Each link of this chain of changes has added to the chain itself and has informed all of the subsequently added links. Each change has invoked new capabilities, skillsets, awarenesses, and understandings. Each has necessitated a nuanced adaptation of my persona to the social and operational terrain. Each has brought out a different facet of my me-ness, applied appropriately (I hope) to the particulars of the situation. So each time I've changed or evolved the nature of my practice, I've also needed to change and evolve myself. The inner growth I've needed to embrace in order to adapt to and thrive in each career iteration has transformed me in sometimes profound ways. And yet there's been one constant all along: the me that is me inside.

Realising this has caused me to ponder how deep change actually needs to go in a morphing career. Is mere behaviour change (along with constant skills acquisition) sufficient to maintain agility in one's practice or does the change need to occur on a more fundamental level? Conversely, what elements within the practitioner need to stay constant, to remain steady and

unchanging as a stabilising foundation to enable the person to weather a climate of constant change? Does the internal boundary between stability and change need to remain flexible itself?

This thesis was begun whilst running a dynamic film programme, one which prides itself on its flexibility and responsiveness to the expressed needs of its current students; to the morphing realities of the ever-evolving screen industries; and to a body of thought that is continually unfolding around the interweaving of critical film histories and evolving modes of engagement with contemporary screen content.

This thesis was begun in the middle of a massive, fundamental transformation of the polytech sector in New Zealand. The sweeping Reform of Vocational Education (ROVE) was initiated by the previous centre-left Labour Party government, but now, under the newly elected conservative National Party government, has made a 180° turn, and is currently being disestablished. As this overhaul is still underway, priorities are shifting, budgets are being “reimagined”, and some divisions are being disestablished.

Currently (late-2024), there is much uncertainty around the outlook for governance, resourcing, and jobs, and it remains unclear how close to home these changes will land, how much autonomy we will be able to retain over our content and delivery, or whether our teaching philosophies and our bespoke student-centred pedagogies will be honoured in the oncoming restructures. As a screen educator, I have yet to learn how these transformations will affect my teaching or my relationship with my students or colleagues. I am standing by to embrace or adapt to the changes that are made to my path.

Having dealt with much change over the years, I have learned to hover in flexible strength mode. A twig on a live tree can be bent quite far and will still spring back to its original form; it is strong and flexible. A twig that has fallen and is dead will snap almost instantly when bent. This analogy is a good model for my approach to agility. Often rigidity (particularly in blokey culture) is confused with strength. But true strength often lies in flexibility. I am unmoving in my commitment to my morals and my ethical principles, but I endeavour to remain flexible to the changes that life will always bring. I believe that this flexibility enables me to stay current and relevant, and that it keeps me humble and open to possibilities and to continual growth.

Both the screen industries and the education industry are changing and evolving rapidly. Screen students today find themselves facing an uncertain future, a state in which they will also find themselves as they embark on their screen careers. I am concerned for them. There will

continue to be change, as the example of AI's rapid growth in creative spheres makes clear. Ideally, education will continue to facilitate critical thinking skills alongside practical skills, and an understanding of context in which to apply these different kinds of skills.

But how can students learn to prepare themselves for continual, rapid change? This is the underlying question that drives me to look deeply at how other screen practitioners, screen educators, and those in positions to support screen growth, have dealt with change in their own lives in hopes of gaining insight to illuminate future change responses. I am invested in doing my part to enable screen students to craft their futures with an awareness of the evolving environment they will be entering and with confidence in their ability to thrive in that environment.

Finally, a note about the timeframe within which this thesis sits. The backdrop of this research is a landscape that is continually evolving. Many of the particulars discussed herein relate to technologies, methods and situations that exist at the time that this research was being undertaken, early 2022 through late 2024. However, it is highly likely that by the time this thesis is published, and/or by the time you read it, many of the specific elements will have either changed somewhat, have completely transformed, or will have vanished altogether. So, I ask you to look past the technical specifics to the heart and the intention of the work.

CHAPTER 1: INTRODUCTION

This chapter provides a brief introduction to the research presented in this thesis, focusing on the background to the study, the objective of the research, and the structure of the thesis.

1.1 BACKGROUND

The burgeoning digitisation of the world over the past thirty years has set in motion many significant changes and has precipitated the Fourth Industrial Revolution which is transforming many industries across the globe. The nature of work is changing, as is the nature and scope of the information and entertainment we receive and interact with. Part of this picture of rapid change includes dramatic transformations in the industries that generate cinema, television, and more recently, digital content over a growing number of platforms. What are these changes and how have industry practitioners experienced and responded to them? What can educators learn from these experiences and responses? And how can we use these learnings to script the future as it continues to evolve?

Screen education is at a crossroads between its legacy of teaching conventional film and television methods and arming students with the skills and acuity to integrate moving image into a broader spectrum of visual communication that continues to evolve. Given a state of continuous change in the information/entertainment industries, tomorrow's screen graduates will likely need to learn to acquire new competencies that will enable them to adapt to the unfolding landscape. To support this added dimension of knowledge, screen educators will likely need to proactively adapt to the provision of a screen education that goes beyond the traditional cornucopia of skills and knowledge associated with the field. But what are these new competencies?

1.2 RESEARCH OBJECTIVE

The intention of this research is to gain a deep and narrowly-focused understanding of ongoing transformation that is occurring in two associated sectors – screen production and screen education. As a snapshot of an unfolding phenomenon, this research explores the lived experience of change through the eyes of people who work in, and on the periphery of, the screen industries in New Zealand. It is hoped that the insights gained here will provide a valuable contribution to screen educators by identifying ways to empower the screen

practitioners of tomorrow with ways to proactively respond to the changes that are still to come in the dynamic screen domain. By doing so, the research aspires to support the ongoing relevance of screen programmes in higher education.

1.3 THESIS OUTLINE

Beginning with a broad perspective of the landscape against which screen evolution is set, the Literature Review will provide a selected overview of changes that have been reshaping both screen production and screen education. The Methodology chapter will connect my own worldview with the methodology I've chosen through which to approach this research. As someone who has spent years in the screen industry and then years in screen education, I am situated within this research. This chapter will explain how I will employ my methodology to balance my interpretative stance with the ability to perceive the data "as it is" and then analyse the findings thematically. The Results chapter will be a curation of the journeys that have been travelled by the nineteen research participants who share their thoughts, feelings, and some of the details of their experiences of change in and around screen in New Zealand. This chapter will conclude with an overview of the themes that the data has prompted, and which point to a set of methodical approaches for responding to change. The Discussion chapter will provide a targeted interpretation of several of the insights that came out of the conversations. This will be presented in the form of possible strategies for ways to handle and respond to a continually changing landscape. The Conclusion will discuss ways in which screen education might benefit from the contributions made by this research, it will acknowledge the limitations of the study, it will suggest possible approaches to implementation of the suggested strategies and it will present recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

This chapter introduces the key concepts and related research literature that outlines the wider context of this study.

2.1 INTRODUCTION

Whilst moving pictures began as a series of still photographs shown in rapid sequence on devices such as the zoetrope, the first film captured by a movie camera and exhibited for entertainment is commonly understood to be *La Sortie de l'Usine Lumière à Lyon* (Workers Leaving the Lumière Factory in Lyon), by the Lumière Brothers, in 1895. Since that time, the world has gone through some of the greatest technical, social and cultural changes in human history, and those changes have impacted how we create and consume moving pictures. Before venturing into the specifics of this change in relation to moving image, I will look at change in its broadest sense.

In my life time, I have seen and experienced humans walking on the moon; advancements in civil rights; the popularisation of the personal computer; the AIDS epidemic; the end of the cold war and the fall of the Berlin wall; the embedding of the internet into daily life; the propagation of social media; the invention and proliferation of the smartphone; a historic growth in economic inequality; a growing awareness, and the increasingly destructive impacts, of climate change; the COVID pandemic; and the emergence and expansion of artificial intelligence. Each change in itself is momentous, but reflecting on the whole period of change leaves me pondering what changes my children will experience in their lifetimes. As an educator, I wonder whether our educational systems are preparing the younger generation for those changes.

This literature review aims to highlight some of the macro- and micro- level changes that have impacted the screen industries in recent years. As I will discuss in the methodology chapter, this research is inherently subjective and bound to my own lived experience. As such, it does not aim to be complete, nor does it aim to be comprehensive; instead it simply provides a context and overview of the screen industries in relation to broader social, technological and cultural change phenomena. In a cinematic sense, this literature review can be regarded as the film sets within which our actors, the research participants, will tell out their stories.

2.1.1 Change

We are only a quarter of the way into a century that has already been marked by formidable development and disruption. We are living in a time of rapid, continuous, and exponentially accelerating change that has affected virtually all avenues of modern life (Butler, 2016; Eliazar & Shlesinger, 2018), change that has shaken the foundations of almost every industry (Azhar, 2021), and has contributed to a state of volatility, uncertainty, complexity, and ambiguity (often shortened to the acronym VUCA) (Lenk, 2024; Taskan et al., 2022). This state has become the constant rather than the exception to the extent that it has become known as the Permacrisis (Zatti, 2024).

Throughout recorded human history, people have explored the nature of change with curious fascination. It can be safely suggested that a major focus of the arts and sciences either overtly or tacitly addresses, contemplates, and/or speculates on such conundrums as: What causes change? Why do things need to change? What is the nature of change? Why does change seem to occur to some things and not to others? Is it possible to ever stop change? How can we define it, create it, contain it, direct it, flow with it, exploit it, promote it, slow it down, speed it up, adapt to it?

Discourse around change pervades virtually every avenue of research and discussion – from philosophical examinations of the nature of change itself (Jansen, 2001; Lawrence, 2024; Manoussakis, 2017; Ogunbure, 2012) to the exploration of change theory related to effective agency for change (Kritsonis, 2005; Rad & Rad, 2021).

Across the literature, there are numerous theories of change, a great number of which are developed in the context of effecting change within groups or organisations. An early influential change theorist was psychologist and social scientist Kurt Lewin (1890-1947), who, through his Force Field Theory, described behaviour as being the result of opposing forces: the driving forces that push toward change and the restraining forces that push against change. These converging forces balance one another out, resulting in a sort of frozen state (Lewin, 1951). In his three-step model of change, Lewin proposed to first “unfreeze” the current situation; secondly, to move the relevant elements into a more favourable configuration; and thirdly, to “refreeze” the new situation in order to cement the changes that have been made (Cummings et al., 2016). Whilst Lewin’s interest in change reflected his personal commitment to helping to resolve social conflicts, his three-step model of change has been carried forward

and applied largely in the context of managing organisational change within companies (Burnes, 2020).

Subsequent theories of change have built upon and reinterpreted Lewin's seminal work. John Kotter (2012) lays out an eight-step process for leading change. Some of these steps are: establishing an urgency around the change, forming and communicating a vision for change, removing obstacles by empowering others to act on the vision, planning and creating short-term wins, and institutionalising new approaches (Kotter, 2012). Everett Rogers (1962/2003) explored the process by which a culture adopts innovations, examining the roles of change agents, opinion leaders and the progression of adopter types (e.g. Early Adopters, Early Majority, Late Majority, Laggards) in advancing the development from a what begins as a deviant idea through its diffusion into common use (Rogers, 2003).

Whilst a great many change models focus largely on organisational change, there are also several theorists who focus on change on a more individual level. William Bridges' Transition Model (2004) is centred on the personal process of change, drawing on research into adult development (Bridges, 2001, 2004). Bridges views transition "as the natural process of disorientation and reorientation marking the turning points in the path of growth" (Bridges, 2004, p. 15)

Another change model that was designed for personal transformation is Prochaska & DiClemente's Transtheoretical Model of Change (Prochaska & DiClemente, 1982). Initially developed in connection with overcoming addictions, the Transtheoretical Model has since been widely applied in a variety of contexts (Gutierrez & Czerny, 2018). Each of the five stages of this model – precontemplation, contemplation, preparation, action and maintenance – incorporate more granular active steps toward effecting change. In their research studying the major contributors to people embracing change and retaining the new state, Prochaska & DiClemente found that the higher the person's sense of self-efficacy, the greater were the chances of success in their change process (Prochaska et al., 1985). The contribution of self-efficacy to embracing change is worth noting here as it will figure prominently later in this thesis.

This research focuses on the lived experience of change in and around the screen industries in New Zealand and explores how these experiences might inform screen educators in preparing the filmmakers of tomorrow to thrive in sustainable careers in a rapidly changing environment.

It is also hoped that the outcome might provide insight to screen educators around how we ourselves may not only cope with change but how we may use it to fuel our own growth as the guardians of screen knowledge and skill.

To place this research in a broader context, I will touch here on some of the factors that have led up to, and continue to contribute to, the steady, some say accelerating, evolution of the screen industry, both in New Zealand and abroad. Indeed, the history of screen represents a relatively brief 130-years of almost constant innovation and change (Dixon & Foster, 2018; Ryan, 1988). But it can be argued that in the past two or three decades, changes in the creation, delivery, and usage of screen content have accelerated dramatically (Koljonen, 2018; McDonald & Smith-Rowsey, 2016; Olsberg SPI & Association of Film Commissioners International, 2024; Salvador et al., 2019; Solidoro & Viscusi, 2020).

2.1.2 Limitations of this Literature Review

Admittedly, discussion of *any* change in the 2020's, within any sector of industry or culture, is an ambitious undertaking involving complex sets of layers, each with multiple intertwining elements. To address them all adequately would require multiple volumes that would certainly be outdated before they were completed. This literature review attempts to capture some of this wider context, but ultimately narrows down to a small cross-sectional snapshot of the intersection of two sectors in motion: the screen sector and the education sector. Even here, the focus is further restricted primarily to the changes occurring in New Zealand in those areas. As such, there are limitations to this Literature Review and to the broader thesis. The two that might stick out most glaringly are the effects of both Artificial Intelligence and of COVID-19 on the screen creation process, on the viewing experiences of the various screen audiences, and on the structure and delivery of screen education. None of these areas are by any means absent from this work - the roles that both AI and COVID have played in the reshaping of screen creation and consumption, as well as on screen education, are palpable and undeniable, and are touched on in various parts of this thesis. But they are kept off centre stage in order to focus on the experience of change in the context of working in the screen industries as lived by the research participants.

2.2 THE CHANGING NATURE OF WORK

From the way jobs are performed through the types of jobs that exist to the ways that people get jobs, this section will explore ways in which work itself is transforming.

2.2.1 Industry 4.0

The emergence of digital technologies over the past three decades has transformed society on virtually every level, including how goods are created, how services are provided, how business is transacted, and how people earn money (Barrett et al., 2015; Freire De Souza et al., 2024; Li, 2015). Workers are having to re-evaluate their specialist skills (Frey & Osborne, 2015) as we enter “a new era where physical, digital, and biological systems are becoming integrated, paving the way for an imminent transformation in production systems” (Cardona & Serrano, 2023). This merging of human and machine, known as the Fourth Industrial Revolution (4IR), integrating cyber-physical systems, machine learning, the Internet of Things, semantic machine-to-machine communication, and cloud computing, represents a significant and fundamental shift in the social and economic fabric (Balog, 2020).

The term Fourth Industrial Revolution was popularised by German engineer and economist Klaus Schwab in 2016. Schwab is the founder and executive chairman of the World Economic Forum (WEF), an international consortium of leaders from the worlds of economics, politics, business and the media. Friesen (2020) describes the WEF as “a meeting place, a transnational network, an influential campaigner participant, and a launching pad for a myriad of initiatives intended to ‘improve the state of the world’” (Friesen, 2020, p. 2). Pigman (2007) points out that “it has grown from an organization tailored to the needs of European businesses to an institution promoting a multi-stakeholder approach to global problem solving and governance” (Pigman, 2007, p. 58). These insights provide an interesting layer of context to discussions about 4IR, about which Schwab asserts that “...the fusion of digital, physical and biological technologies driving the current changes will serve to enhance human labor and cognition, meaning that leaders will need to prepare workforces and develop education models to work with, and alongside, increasingly capable, connected and intelligent machines” (Schwab, 2017, p. 40). Whilst there is general agreement that the conditions Schwab describes are underway, some take issue with his approach. Thornhill (2018) points out that Schwab’s laser focus on technology overlooks many of the social and political forces at play that may further the disempowerment of the individual (Thornhill, 2018).

Taking Thornhill’s concern deeper, Loumpourdi (2024), whilst acknowledging the steady advance of AI into the workplace, frames the notion of 4IR as “a socio-technical, ideological, and rhetorical construction rooted in the neoliberal discourse that reflects key tenets of global capitalism, such as the necessity for continuous growth and competitiveness as well as the

endless accumulation of capital” (Loumpourdi, 2024, p. 25). The 4IR paradigm, asserts Loumpourdi, views employees as “a cluster of competencies” whose skills as economic units must be continually updated in response to market demands.

Along similar lines, Morgan (2019) posits that the way 4IR is framed in the discourse amongst policymakers holds a significant key to the unfolding future of work, saying that “a creeping narrative of ‘the future is coming, so you better get used to it’ is doing little to proactively shape the future in the interests of the workers of tomorrow if there are workers tomorrow” (Morgan, 2019, p. 391)

Meanwhile, the steady encroachment of technology into methods of creation across all sectors – from heavy industry to creative work – provides undeniable evidence (if one needs it) that the world is in a state of fundamental change.

One example is seen in manufacturing, where intelligent automation technologies are combined to accomplish a focused set of functions, giving rise to a new breed of smart factories in which advanced information and communication technologies (ICT) serve as the foundational framework for extending manufacturing processes (Xu et al., 2018).

The shift in manufacturing alone will have a significant impact on the labour force and on the workplace globally (de Ruyter et al., 2019). Workers will need to learn to carry out their jobs alongside cyber-physical systems, “to be aware of each other’s movements and intentions, and to communicate via gestures and other non-classical interfaces” (Hajduk et al., 2013, pp. 1-6; cited in Dotoli et al., 2019, p. 5050).

The move away from traditional job roles is disrupting traditional methods for learning job skills, such as mentor-based on-the-job worker training, highlighting the need for new approaches to the teaching and learning of new and emerging skills (Beane, 2019; Borrageiro & Mennega, 2023).

Whilst the changing face of work will surely generate new jobs, many argue that before too long, job destruction will likely outpace new job creation, widening a growing economic gap and threatening widespread instability (Ford, 2015; Frey & Osborne, 2015; Irina & Luminița, 2021; MacCarthy, 2014; Paus, 2018; Peters, 2017; Wood, 2014). Despite the trend in the literature toward the bleak, there are voices calling for a different framing of the integration of digital technologies into the workplace. For example, De Cremer and Kasparov (2021) assert

that whilst AI is becoming increasingly intelligent, “it’s a decidedly different type of intelligence that we possess”, suggesting that the oft-discussed threat of AI’s replacement of human creativity might be off target. They posit that there is evidence supporting the hope to “expand the workforce [which] both humans and machines will be part of, but with the aim to improve humanity and well-being while also being more efficient in the execution of our jobs” (De Cremer & Kasparov, 2021, Recommendations section, para. 6). Howsoever, there is still value in considering Peters’ query: “What is the role of higher education in the digital age when technological unemployment becomes the rule rather than the exception?” (Peters, 2017, p. 5)

Loumpourdi (2024) offers a possible way through Peters’ apprehension by suggesting integration of the arts and humanities and the social sciences with the highly specialised STEM skills that are already in place within employee development curricula designed to prepare people for 4IR. Loumpourdi argues that the inclusion of a wide range of ideas and types of knowledge, delivered through an interdisciplinary approach, will support both the development of the individual as well as setting them up for success in the 4IR. This “preferred future” that she envisions rejects the dichotomy “between education for economic growth and education for individual flourishing [...] because the skills that are required for human flourishing are also the skills that support economic growth, such as critical and independent thinking, imagination, and collaboration” (Loumpourdi, 2024, p. 25).

The screen industries have experienced the ripple effect that 4IR has had on the global social and economic landscape, as well as on the workplace itself. As such, this research explores the changing nature of work as it applies to the screen industries and the efforts of screen education to adapt to, and prepare students for, these changes.

2.2.2 The Gig Economy

The global economic slowdowns of the early 2000’s, which compelled businesses to find ways to operate more cost-effectively, have been credited as a key factor in the gig economy becoming a significant player in statistical analyses of incomes (Friedman, 2014). The COVID-19 pandemic also brought about a rapid acceleration in flexible work arrangements as organisations were again forced to re-evaluate their operations (Ray et al., 2024). In efforts to remain competitive, many companies restructured their business models, which often involved reorganising staffing structures, in order to stay agile in a newly volatile landscape (Schiavi & Behr, 2018). Since one of the more flexible expenses was seen to be the costs of labour, many industries across the goods and services spectrum began employing workers under “alternative

work arrangements” (Friedman, 2014) by moving away from maintaining a stable of full-time permanent employees and transitioning into the casual employment of independent contractors, usually short-term and on a project-by-project basis. Today, gig work often involves matching supply and demand for services through the means of digital technology platforms (Ostoj, 2021). In this model of on-demand, just-in-time employment, people are hired based on their skills matching the available work.

Churchill & Craig (2019) describe gig work as “by definition short term, task based, insecure and precarious” (Churchill & Craig 2019). Proponents of the gig economy cite the greater sense of autonomy many gig workers experience through their ability to choose their own working hours, affording them a greater possibility for work-life balance than with conventional employment (Bulian, 2021). Shvetsova (2022) frames the gig economy as “a truly progressive approach that should bring positive changes [for employers and managers, consumers, and] narrow and qualified specialists [who] will be able to work for several employers at once, and [...] be able to regulate the cost of their services and the level of profit” (Shvetsova, 2022) At the same time, concerns have been expressed about the gig model shifting the risk of economic vacillations onto the workers (Friedman, 2014). By creating a sizeable surplus of instantly replaceable labour (Ostoj, 2021), the gig economy has dramatically increased uncertainty amongst a now fragmented workforce and is seen to have had a negative impact on workplace well-being (Wan, et al., 2024). Gig work is by nature piecemeal and isolating (Walker et al., 2021), and gig workers often find themselves putting in longer hours than in traditional work settings, skewing their work-life balance (Borrageiro & Mennega, 2023; Ray et al., 2024; Zietlow, 2020). With the absence of human resource management practices, such as training and compensation increases (Williams et al., 2021), as well as the lack of conventional employment benefits such as health insurance coverage and retirement plans (Bulian, 2021; Ray et al., 2024; Williams et al., 2021), the need has been raised for gig workers to organise into a cross-specialism coalition, if not a union, to ensure fair working conditions (Jin et al., 2021; Ross, 2008; Walker et al., 2021). Further, a variety of proposals have been advanced to train workers in the skills and capabilities required to thrive in the gig economy (Al-Maskari et al., 2024; Hearn et al., 2023; Hora et al., 2020; Loumpourdi, 2024; Oppong, 2018).

2.3 THE CREATIVE ECONOMY

In this section, I will explore work in the creative economy, beginning with a discussion of the nature of freelance work. Next, I will compare and contrast two particular options for

consideration within each of the two significant foci of this research, Screen Careers and Screen Education. Finally, I will discuss a model for mapping creative careers, the Creative Trident.

2.3.1 Freelance Work

A common flexible work scenario in the creative economy is that of the freelance worker, a term for which a range of definitions can be found across the literature. Kitching and Smallbone (2008) describe freelancers simply as “skilled professional workers who are neither employers nor employees, supplying labour on a temporary basis under a contract for services for a fee to a range of business clients” (Kitching & Smallbone, 2008). Considered as “micro-businesses” (Mould et al., 2014), freelancers are responsible for procuring ongoing work as well as for paying their own taxes and insurance costs. They also bear the responsibility for their own initial training – usually at the freelancer’s own expense (Genders, 2022) - as well as for ongoing upskilling to remain current with evolving tools and methods. “There is no typical freelancer”, say Kitching and Smallbone (2012), “they vary in personal, work and organizational characteristics” “supplying straightforward numerical flexibility [to businesses] in some circumstances and contributing highly valued innovative knowledge and skills in others” (Kitching and Smallbone, 2012, p. 12).

There are conflicting opinions in the literature about whether freelance work is gig work (Hudek et al., 2021; Markovic et al., 2021; Öberg, 2024). Whilst some similarities can be found between the two, one relevant distinction is that gig work implies a singular service provided by a worker who is engaged on demand, one job at a time, often through a digital platform as intermediary (Churchill & Craig 2019). By contrast, freelancing tends to involve work that requires more highly specialised training, and usually involves project-based employment that tends to extend longer than a one-off service (Öberg, 2024). For these reasons, this research aligns with those who contend that whilst freelance work can be considered part of the overall gig economy, it is not gig work per se. Freelance work comprises much of the employment in the creative industries, particularly in screen (Omidani et al., 2022). Mould holds that “freelancers...can be understood as significant to the creative process and integral to the creative industries as a whole.” (Mould et al., 2014, p. 2450).

In order to ensure continuous employment, freelancers must continually promote themselves. Apitzsch et al. (2023) observe that because an attribute of many successful freelance careers involves an “in-depth knowledge of occupational specialisation and organisational and personal characteristics”, they prefer to secure employment through their own networks, rather

than through external job-matching services, as occurs with gig work (Apitzsch et al., 2023). Much of the freelancer's self-promotion activity takes place in social contexts often outside of paid work. Hoedemaekers (2021) points out that "creating connections with peers and potential clients [...] is a way of building social capital that creates stable working relationships and additional work commissions." (Hoedemaekers, 2021, p. 347).

For many creative freelancers, part of the self-promotion effort compels them to put on display a body of work that showcases their capabilities and advances the image that they want to portray about themselves to potential clients (Blyth et al., 2024). There are a variety of platforms through which to share these curated work samples including web-based portfolios or through social media channels such as Instagram. This ancillary, but vital, non-paid work activity both affords the worker the opportunity to position themselves as being in demand and also reflects the worker's skill and approach to craft, serving to establish and maintain the worker's reputation in the freelance marketplace. Scolere (2019) points out that in this regard, workers begin to see themselves as a brand, and they accept that the "labor of social media production" is fulfilling the need to perpetually promote their branded personas (Scolere, 2019). In constructing their brand, workers tend to downplay freelancing's inherent precarity - which many participants in Hoedemaekers's study contextualised as being more of "a private concern rather than a structural problem" - and preferred instead to frame themselves as entrepreneurs (Scolere, 2019). This "carefully constructed artifice" serves to mask the precariousness of their career and enables the worker to focus instead on their autonomy and to celebrate their thriving work life (Hoedemaekers, 2021; Scolere, 2019). Engaging regularly in this "invisible labor" allows them to "invest in social relationships using reputation as an asset and a social capital that translates digital and non-digital interaction into value" (Gandini, 2016, p. 125; cited in Scolere, 2019, p. 1894).

Whilst "developing this artifice is as important as carrying out one's primary work tasks", it has also been shown to engender ambivalent emotions within the worker. For example, one freelance participant in Hoedemaekers' study was "arguing on one hand that autonomy is something he strives for, but on the other hand that the constant need for asserting a market presence limits the freedom he would expect to have" (Hoedemaekers, 2021, p. 358). For Nørholm Lundin (2023), "Freelance work is balancing the edge between what is considered as dignified and sustainable, and what is not. [...] The freelancers bring with them a sense of how their careers are going (a sense of their worth) from their social encounters and assessments

[on the job]. Being able to deal with these emotions, or not, decides who is able to continue playing the game and who is not” (Nørholm Lundin, 2023, p. 242). Studies of precariousness evidence the profound influences on health and well-being that the instability of freelance status can bring (Alacovska & Bissonnette, 2021; Benison et al., 2023; Bulian, 2021; Markovic et al., 2021; Munnely, 2022; Ray et al., 2024; Wan et al., 2024).

Efforts by freelancers to form communities of practice (COPs) in the model articulated by Lave & Wenger (1991) have had varying levels of success. Fitzpatrick & McCaughey (2023) explore the often incompatible complexities between the COP and the freelancer. These include mismatches between the specificities of required skillsets from project to project, likely necessitating a new COP for each project, an impracticable option. Grugulis & Stoyanova (2011) point out that the valuable skill-sharing function that COPs provide is often compromised by the unavailability to novice workers of the experts who would normally offer upskilling advice (Grugulis & Stoyanova, 2011). More affirmingly, Moise & Anton (2022) explore online COPs as one way around the availability question for freelancers and highlight the opportunity they offer for greater granularity of focus, given that they are not bound by geography (Moise & Anton, 2022). However, whilst the skills-sharing and experience-sharing value of the CoP to the freelancer might be more easily served online, one wonders how deeply the human connection, so vital to emotional balance, can be established in an online COP.

Finally, it is worth considering Genders’ (2022) observations about the model of employment by which creative freelancing currently operates. Given the time it takes to launch a creative career amidst high living costs and a scarcity of reasonably priced training, combined with the intrinsic precarity of freelance work itself, the resources required to sustain a career as a creative freelancer comes with significant economic challenges. Thus, the risks involved in starting up and maintaining a freelance career, according to Genders, can be seen as “a privilege primarily afforded to the middle class. It then follows that the term ‘creative class’ has become synonymous with this demographic and the policy that aims to attract this group based on a fundamental, class-based, inequality” (Genders, 2022, p. 443). Genders joins other researchers (Azar, 2020; Bazalgette, 2017; England, 2024; Genders, 2022; Huđek et al., 2021; Mould et al., 2014) in arguing for policymakers to provide (and/or increase) funding for local training programmes and apprenticeships aimed at “foster[ing] a diverse and equal workforce within the film and television sector”.

2.3.2 Avenues for Screen Careers: Single Specialisations vs. Portfolio Careers

Some freelance workers in the creative economy engage in careers in which they pursue a single specialisation and rise vertically through the ranks. An example within the screen industries is working in the lighting department. A common route people take to enter the industry is to start as a lighting assistant. With sufficient luck, technical skill, and social skills, not to mention connection to a strong peer network, they will become part of a lighting team who works job after job under one Gaffer, who is the head of the lighting department. A lighting assistant will often work their way up the ladder in the lighting department and will hopefully themselves become a Gaffer one day (Pennington, 2023; Prospects.ac.uk, n.d.). This can eventually lead to lateral promotion as being a Gaffer is one pathway to becoming a Cinematographer (Valentini, 2017).

Another strategy some workers adopt is that of the portfolio career, which often involves a variety of part-time or short-term roles within different work settings that often fall within related areas of expertise. The concept of portfolio careers was first defined in the late 1980's (Handy, 1989) and has been steadily growing as a work model across a number of sectors (Clague, 2024; Haapakorpi, 2022; Jennings, 2022; Rinne, 2021). Munnelly (2022) suggests that creative careers increasingly involve working across different, but related, sectors and disciplines as a way to minimise the risk inherent in single-specialisation focus (Munnelly, 2022).

Workers in the creative industries often derive livelihoods from multiple income streams, each of which represents a slightly different skillset (Hopson & Ledger, 2010; Mallon, 1999; Wilson, 2015). An example in the Camera department might involve getting part-time work as a Camera Assistant on larger shoots; a Director of Photography on smaller productions; and providing full-service video production as an independent contractor on internet content, or real estate and wedding videos.

This is an added dimension to the flexible nature of screen work in that it is not only casual and project-based but the nature of the work itself is also variable based on the need of the project. Freelance work fits nicely into the portfolio career model but need not be the only component of a portfolio career. Additionally, maintaining a portfolio career and vertical advancement through a single department are not mutually exclusive. One can rise through the ranks of, say, a camera department and still do other types of camera work, such as contract videography or portrait photography.

2.3.3 Screen Education: Specialist vs. Generalist Skills

Considerations around focusing a single specialisation as measured against focusing on a portfolio career gives rise to discussion around whether students and practitioners should focus on generalist or specialist skills (Carey et al., 2019; Hiles, 2018; Kroll, 2020). Alongside the rapid developments in technologies and methods for moving image content creation come the morphing of traditional job roles and the development of entirely new ones. So, should education for a career in screen focus more on specialist skills or should the emphasis be more on the acquisition of a wider range of capabilities? Which path would best set graduates up to thrive in careers that are sustainable and durable; careers that are powered by the winds of change, not capsized by them?

On one hand, becoming conversant in a broad variety of creation processes can help to develop agility amongst practitioners and support them to transition between morphing roles, allowing them to access a broader knowledge base than they would if they only focused on a single specialisation (Epstein, 2019). Byun & Raffiee, 2023 have found that when workers are displaced from their jobs, those with more generalist skills have more of an advantage finding subsequent work than those who are highly specialised (Byun & Raffiee, 2023). Further, developing a broad range of skills does not preclude later specialisation. On the other hand, deep specialist skills are often required in many existing and emerging roles in screen, which can often be quite technically specific.

A third position holds that a degree of specialist-generalist hybridity is ideal for successful creative careers (Beilby, 1972; Johnson, 2019; Jucevicius, 2010; Kroll, 2020; Mezias & Mezias, 2000). Mikkelsen & Martin (2019) define the follower of this middle path, that combines both generalism and specialism, as the “neo-generalist”. They buck the notion of siloed “hyperspecialisation” and argue for the appropriateness of being both specialist and generalist, able to master multiple disciplines, declaring that:

The neo-generalist...is both a generalist and a specialist, switching between the two as required. They are able to corral their generalist tendencies in service of deep specialisms [...] Neo-generalists bring unique perspectives, blended knowledge and experience from diverse disciplines to the specialisms they perform. But as lifelong learners and inherently curious people, they also demonstrate a facility in switching specialisms. When the context shifts, so do they. They are fluid and flexible. Their generalist preferences, when combined with what they have experienced through

specialist activities, contribute to the development of meta-skills: boundary-crossing capabilities that are essential as we respond to big issues or take advantage of unforeseen opportunities. (Mikkelsen & Martin, 2016, p. 39)

I have previously argued (2021) that the recipe for both empowering and future-proofing aspiring screen practitioners involves a wholesale re-look at screen education curriculum with the intention of developing a new breed of “multi-specialist moving-image practitioner”. I reasoned that arming screen students with a rich and broad-based “foundational storehouse of inspirations, references, skills and capabilities”, will enable them to weather the vagaries of a cyclical and swiftly morphing set of industries. (Wagner, 2021).

The specialist-generalist conversation with regard to screen education, indeed with regard to all creative education, reverberates into research on creative career pathways. One strand of this research attempts to broadly define the varieties of employment categories in and around the creative industries and to identify trends in demand within these categories.

2.3.4 The Creative Trident

The Creative Trident is a model for analysing creative career pathways. In the process of mapping employment in the creative workforce, Higgs and Cunningham (2008) identified three distinct “occupational situations” within which cultural sector jobs occur. These are:

- Creative occupations within the core creative industries, which they call “Specialist Creatives”
- Non-creative occupations within the creative industries, which they refer to as “Support Workers” (business and managerial occupations, for example, such as running a small arts festival)
- Creative occupations outside of the creative industries, which they call “Embedded Creatives” (for example, an in-house videographer who creates instructional videos for a large manufacturer)

Based on analysis of the job distribution data from amongst these three segments within the Australian economy at the time of the study, between the Specialist and the Embedded creative jobs, the majority of work was found to fall in the Embedded category, which indicates that there are more people working in creative occupations outside of specifically creative

industries than there are people working in creative occupations inside the creative industries (Hearn et al., 2014; Higgs & Cunningham, 2008; Rodgers, 2015).

Since its 2008 introduction, the Creative Trident approach has been invoked in academic discussions about creative career pathways, particularly in efforts to clarify the often-complex challenges often faced with securing employment in both the Specialist and the Embedded realms (Ashton, 2015). Search results for the Creative Trident appear to diminish after 2015, yet Bahkshhi (2022) argues that the approach is still relevant and advocates for the model to be employed more rigorously in policy discussions (Bahkshhi, 2022). The Creative Trident is relevant to this research because it is helpful to consider that many students who study screen are likely to find careers in embedded creative roles outside or adjacent to the screen sector. An example of this might be shooting and editing videos for corporate communications, which would likely comprise one element of a portfolio career.

2.4 THE EVOLVING SCREEN LANDSCAPE

From financing and distribution structures to the casualisation of employment, from methods of production to the means of content delivery and usage, the screen industries worldwide have been undergoing one set of transformations after another since the birth of film as an entertainment medium.

2.4.1 Screen Production Goes Global

One significant shift has been in the variety of locations in which films are produced coupled with the growth of highly skilled professional film crews around the world. In America, as screen production began to look past Hollywood for places to produce, film commissions in other US states lured productions to their areas, recognising the significant boost that such productions supplied to their local economies (Goldsmith & O'Regan, 2008). This was accomplished through aggressive campaigns launched by each region's film commission, and also by the establishment of incentive programmes that made shooting in the respective areas more economically attractive to the productions. This led to incentive programmes springing up in other countries around the world, serving to further globalise screen production (Q.Li et al., 2021).

To date, there are 116 incentives offered by localities, both on national and regional levels (Olsberg•SPI, 2024). This includes 39 from various states in the US, 34 from European countries, 15 from Canada, 13 from Asia/Oceania, 8 from Latin America and the Caribbean,

and 7 from the Middle East and Africa. The incentives take the form of either a rebate, a tax credit, or a tax shelter via investment. Incentive amounts internationally range around the 20-40% band, with Cyprus offering as low as 10% rebates for certain expenses (and up to 40% on others), and Japan offering a 50% rebate on large scale productions (Olsberg SPI, 2024). The New Zealand Screen Production Rebate will be discussed in Section 2.5.1, *The New Zealand Screen Industry – A Contextual Background*.

2.4.2 Recent Technological Disruption

Complementing the geographic spread of screen production, ongoing evolution in technology and methods is now rapidly disrupting a set of practices, from financing to end usage; practices that, until recently, had sat on a slowly building foundation of tradition and convention (Escobar, 2017; Nevill, 2018; Salvador et al., 2019; Simon, 2017; Solidoro & Viscusi, 2020; Thorburn, 2019).

Data science, machine learning and deep neural networks are now used to predict box office success based on a script's content and viewer reactions (Ankit et al., 2020; Hossein & Miller, 2018; Lee et al., 2018; Ru et al., 2018; Vecchio et al., 2020; Zhou et al., 2019), and content providers such as 20th Century Fox and Netflix have already incorporated these tools into their decision-making process when weighing which scripts to invest in, produce and distribute (Campo-Rembado & Oakley, 2018; Grant, 2018).

The advent of high-speed internet turbocharged online video for both the user-generated content platforms (such as YouTube and TikTok) and the streaming content services (such as Netflix, Amazon, AppleTV, Disney+, etc.), also known as over-the-top (OTT) television (Ritu & Sarkar, 2024), both of which rely on algorithmic processes to decide which content to offer viewers (Lubos et al., 2023). The literature abounds with lively discussion around the use of algorithms. Framing them as cultural intermediaries, functioning as a “self-assigned broker between production and consumption”, Bishop (2020) asserts that “individuals’ decision making processes are being over-ridden by processes of data-driven creativity, namely the use of ‘algorithms’ to make decisions about what culture gets made and promoted” (Bishop, 2020). Concern has also been expressed about the role played by video recommender systems in the shaping of audience taste and on the viewer experience (Gomez-Uribe & Hunt, 2016; Lubos et al., 2023; Vicente & Burnay, 2024), and Nieborg and Poell (2018) explore the effects of ‘platformization’”, which they describe as “the penetration of economic and infrastructural extensions of online platforms into the web, affecting the production, distribution, and

circulation of cultural content” (Nieborg & Poell, 2018). On the user-generated side, Bishop (2019) describes how content creators “are impelled to develop publishing strategies that are aligned with the business models of platforms”, adding that “there are growing motivations for producers to render themselves ‘algorithmically recognisable’ and orient themselves toward these algorithmic systems” whilst they continue to play “the visibility game” (Bishop, 2019).

On the production side, AI and machine learning have been integrated into a variety of processes including the de-aging of older actors (Kadner, 2024b), creating mattes for compositing (Zheng & Kambhamettu, 2009), lip-synching (Holliday, 2024), and even film scoring (Gao et al., 2018). AI and machine learning are increasingly used to enhance efficiency in the animation pipeline, assisting creators to build the many layers required to create an animated image (San Román, 2021), a process that was, until recently, a time- and labour-intensive undertaking. AI tools have also found their way into the documentary filmmaking process (Glick, 2024). A central issue of the 2023 labour actions in the US by the Screen Actors Guild and the Writers Guild of America against the Alliance of Motion Picture and Television Producers was around the proposed use of artificial intelligence in the creation of screen content (Anguiano & Beckett, 2023; Bedingfield, 2023). This will likely not be the last effort of screen workers to protect themselves against the threats posed by AI to employment and to creative expression as it is the central topic of much robust discussion (Erpelding et al., 2024; Kadner, 2024a).

2.4.3 Screen Technology Evolution

Over the past quarter century, new platforms, tools, and software for capturing, manipulating and delivering moving image and sound have been developed and integrated into digital workflows at an increasing rate (Cinque & Vincent, 2018; Davis, 2020; Logan, 2016; Maddock, 2019; McDonald & Smith-Rowsey, 2016; Olmos et al., 2018), giving rise to new ways to create as well as new contexts for users to engage with moving image (Jenkins et al., 2013; Macdonald, 2018; Manovich, 2001; Tryon, 2013). These transformations have disrupted the value chain of the TV and film industries (Salvador, Simon, & Benghozi, 2019), presenting opportunities and challenges for both screen practitioners and for educators working to prepare graduates for these industries.

An optimistic viewpoint sees the growing need for digital content (Bottomley, 2019; Pophal, 2018) offering potential for more employment as the number of projects increases. This could also signal increased uptake for the creative works of screen practitioners for whom novel

forms of expression continue to unfold in today's environment of burgeoning creative technology. From a broader perspective, emerging modalities for communication and connection are precipitating a cultural shift in which the ways we create, communicate, and interact with the world are transforming and expanding (Firth et al., 2019; Hernandez-de-Menendez et al., 2020; Lemke, 1998; Pasquarelli & Schultz, 2019; Swingle, 2016).

This optimism is tempered by limitations brought on by some of the realities of these times. Mounting production costs for high-end productions and decreasing budgets for independent production (Binder, 2020); a fickle market for theatrical long-form narrative (Arkenberg, et al., 2020); the decrease of international travel (Fallows et al., 2020; Ledsom, 2020); rising energy and environmental costs (Sax & Johnson, 2024); a global economy still recovering from COVID-19 disruptions (Fuentes & Moder, 2021; Szmigiera, 2021); and a continually uncertain public-health picture (Broe, 2020; Chagollan, 2021; Kadner, 2020) have put much of the screen industries on less stable ground in the last twenty-five years than it had been for the previous century (Broe, 2020). These instabilities cascade down to individual makers and crew workers who face a livelihood that is often sporadic, and who employ creative methods, practices and tools that are continually changing.

As discussed earlier in this chapter, screen practitioners, as freelancers, have long been accustomed to experiencing some level of ongoing precarity as their incomes ebb and flow based on the availability of work. Over the past twenty-five years, however, a new layer of uncertainty has been added with the need to continually keep up with accelerating technological evolution. What follows is a brief look at some of the elements of technological evolution in process of creating screen content.

Sophisticated interactive technologies such as Motion Capture (MoCap) have been part of the visual effects (VFX) workflow since the late twentieth century, on films such as *Avatar* and *Lord of the Rings*, and is steadily being refined and enhanced. The initial implementation of MoCap involved an actor wearing markers that were captured by a camera and recognised by a computer which converted the marker movements into a wireframe, which then formed the structure for a 3D digital character.

Performance Capture, regarded as a more sophisticated version of Motion Capture (Bestor, 2016), involves a camera mounted close to an actor's face. As they perform, their facial expressions and lip movements are tracked and mapped, with a mathematical model being

generated, enabling filmmakers and game developers to replicate facial movement and expression (Xia et al., 2017), including speech (Ali, et al., 2018). The technology is evolving to capture emotion with ever greater verisimilitude (Fyffe et al., 2017). Today, Motion Capture and Performance Capture are used in combination with one another and are able to scan and digitise both body movement and facial expression without the aid of markers (Bisht et al., 2023; Chen et al., 2024).

Another entrant into the screen creation process that has been gaining momentum over the past decade is Virtual Production (VP), in which actors perform against a background that is not physically behind them, but which exists only virtually (Bédard, 2022). There are different forms of VP, but the form that is at the forefront of discussion is the use of a seamless array of LED screens (now called an LED “volume”) making up one or two walls and which function as a virtual background. The process of compositing a live foreground against a background that is not physically in the same place as the performance is almost as old as filmmaking itself. Throughout the years, there have been different methods for achieving this effect. The method most widely used prior to VP involves shooting actors against a blue screen or a green screen, then replacing the blue/green screen in post-production with the desired background. VP, however, more than merely today’s replacement for green screen as the go-to technology for compositing, “transforms the relationships among display technology, live action, image production, and post-production (VFX) by causing a qualitative and performative shift in filmmaking” (Kavakli & Cremona, 2022). It is relevant to this research to briefly discuss how this is so.

Virtual Production is being seen as a far more efficient way of creating screen content (Swords & Willment, 2024a). When a film shoots in a physical location, large lighting and art department crews are often required to craft the physical realities of the location into something that suits the needs of the scene being shot. With Virtual Production, however, scenic elements (rocks, trees, walls, etc.) can be added and moved around through the computer interface and virtual lighting also can be changed in an instant. Thus, the huge expenses associated with location shooting are eliminated, which not only represents a significant cost saving (Swords & Willment, 2024b) but also reduces impact on the environment (Fair, 2023). Less often discussed in the conversation about VP being more efficient is the reduction in crew required to create a given shot, as the two examples above - scenic elements and lighting setups both now being created and adjusted virtually – illustrate. This is another example of improvements

in technology leading to smaller crews (Brooks, 2023; Cinedeck, 2023; Holben, 2024) which could potentially result in an overall reduction in the screen workforce..

VP has also ushered in a shift in creation process whereby technicians trained in visual effects (VFX), which had heretofore been a purely post-production activity, are needing to re-train to be able to accomplish image compositing (placing live action elements within a virtual background) live in camera. This requires not only a new (live production) skillset mapped onto the existing (previously just post-production) VFX skillset, but also is causing technicians from crafts that had previously been temporally separated, due to their position in the linear film timeline, to learn to work together in new ways (Swords & Willment, 2024a).

Additional technical roles have emerged through VP, creating skills gaps in some areas, which causes Fair (2023) to ponder what part these new roles will play in the wider context of the creative industries. “For example, will these new roles be studio-based? If so, does it draw potential skilled creatives away from regional hubs towards the studio facility? What happens to existing regional, traditional production crew if their skillset is no longer needed and their content is now produced miles away in a studio?” (Fair, 2023, p. 53) It is interesting to note that Fair also cites VP as enabling the UK to “take work that may have been produced in other countries”, citing the “opportunity to bring productions like Amazon’s new Lord of the Rings series to a studio in Bray and Bovingdon, rather than New Zealand” (Fair, 2023, p. 53).

Post-production has also been transformed by advancements using intelligent technologies. In the documentary field, for example, the standard practice has been to label (“log”) the footage that has been shot to facilitate retrieval in editing. In the logging process, detailed notes are made of everything that has been shot, including full transcriptions of all interviews. Next to each shot description and interview moment is written the corresponding file location and timecode. This is a laborious process but very helpful to fully acquaint the editor with the material. However, over most of the last decade, “deep learning” approaches, which use neural networks to run sets of analysis algorithms, have been incorporated into this process and is increasingly becoming part of the digital workflow (Mühling et al., 2017), “freeing” humans from having to manually log the raw footage.

These, and a growing group of other examples of the integration of 4IR into the moving image media creation process, are causing ripples in the established workflow, and, in turn, are impacting the nature of job roles in the industry. The burgeoning of new tools and techniques

harbours the possibility that experienced screen workers may no longer be able to rely on their traditional skills and approaches. This possibility increases as further new tools rapidly emerge, further affecting traditional workflows (Carey et al., 2019; Willment et al., 2024).

The enormous impact of mobile technologies has been felt in a range of sectors, from mobile journalism (Canavilhas, 2021) to a new genre of artistic expression as smartphone cinema festivals abound (Schleser et al., 2013). Mobile video has transformed millions of media consumers into user-makers, a phenomenon that has democratised the process of moviemaking on the prosumer level (Epstein, 2015; Szita, 2020). There are several mobile video editing apps on the market as well as apps for creating visual effects and manipulating live and synthesised audio. On the delivery end, platforms such as YouTube, Vimeo and InstagramTV, as well as shorter-form vehicles such as TikTok and Snapchat, have empowered user-makers to easily reach audiences worldwide (Burgess & Green, 2018). Mobile technology continues to develop in technological sophistication, storage and processing capability, and ease of use, making it one of the major industry disruptors (App Annie, 2019; Luckman, 2012; Napoli, 2016; Schleser et al., 2013).

Extended Reality platforms are increasingly finding their place within the moving image landscape (Ge & Hsiao, 2020). Extended Reality (XR) is an umbrella term for technologies that integrate the “real” and virtual worlds in varying degrees of immersiveness. XR comprises Augmented Reality (AR), Virtual Reality (VR), and Mixed Reality (MR) as well as other “reality” platforms that are still to be developed.

Augmented Reality has already found its way into the moving image creation process, from production design pre-visualisation to real-time monitoring of composited images (Blachfield, 2018; Escobar, 2017), and its application to storytelling is being explored as well (Ketchell et al., 2019; Liestøl, 2019; Roettgers, 2018; Zhang et al., 2020).

The trend toward increased audience creative engagement in post-delivery content is also evidenced with Virtual Reality, where the viewer controls not only which direction they’re looking but often can determine where they want to go next in the story. As most cinematic storytelling techniques that were developed in the film era no longer apply in the VR world, a new cinematic language is being developed (Dooley, 2020; Engberg & Bolter, 2020; Pillai et al., 2017; Pillai & Verma, 2019; Rothe & Hußmann, 2018) and different skill sets are being invoked. Connections between VR and storytelling continue to be explored, such as in the

Melbourne-based VR film “Passenger” (Munro, 2020) and Auckland-based VR film “The Green Fairy” (Guarin Davila, 2017). These works, and many others like them being created by artists, filmmakers, and researchers evidence continued expansion of the medium into the narrative sphere. VR works are now being included in international film festivals such as The Venice Immersive, Tribeca Immersive, and the Cannes International Film Festival (La Biennale Di Venezia, 2023; Tribeca Immersive, 2024; Durand, 2024)

Developments in moving-image storytelling technologies and affordances are not limited to tools and methods for content creation. How we receive content, as well as what we are doing with it, is also transforming and is transforming us (Jenkins, 2006; Lemke, 1998; Manovich, 2001). McLuhan (1964) theorised that the development of each significantly new information platform is accompanied by a development leap in our cognitive processes. Content has carved multiple delivery pathways into our lives, and humans continue, throughout history, to engage with it in new ways (McLuhan, 1964). It has been speculated that the infusion of digital media into all aspects of culture is rewriting our brains (Firth et al., 2019; Swingle, 2016). These transformations are perhaps most visible in today’s increasingly tech- and media-savvy students who have grown up with the world’s information instantly accessible in video form at the touch of a finger on their smartphones.

2.4.4 Evolution of Screen Job Roles

The digitisation of moving image has had reverberations throughout the entire screen workflow – from the technical specifics of image acquisition to the multiple methods for delivering programme content (Ryan & Hearn, 2010; Salvador et al., 2019). And, as discussed above, many new tools have been developed to light a set, to move a camera, to capture and process data, and to manipulate footage (Davis, 2020; Heuring, 2017; Pizzello, 2020; Williams & Marcks, 2020).

Many traditional processes and job roles that support moving image creation and delivery, such as the manufacture, processing, distribution, and projection of film, have been replaced by other functions in the digital environment and are now only marginally employed. This has affected hundreds, if not thousands, of jobs (A. S. Cohen et al., 2013). Other processes and job roles in screen pre-production, production and post-production have successfully transitioned from a film (analogue) workflow to a digital one. Accordingly, with the development of new tools and creation methods, new job roles have been developed to operationalise them (Gill & Tiwari,

2023). Despite these changes, the core creative/technical roles remain as they are still key to the process of screen-based storytelling (Mateer, 2014).

A Director of Photography (DoP), for example, still must integrate their working knowledge of drama, lighting & shadow, optics, movement, framing & composition and several other creative and technical elements in order to capably photograph a narrative moving image piece (B. Brown, 2011). The technical particulars of how these images are captured and manipulated have changed radically from the photochemical workflow to the digital imaging workflow (Ganz & Khatib, 2006; Magid, 2002), and these difference in the specifics have in turn influenced the creative process. There are today many more brushes and colours for the moving image visual storyteller to paint with, which opens opportunities to tell new kinds of stories with much greater nuance than in the analogue days. As Cohen (2014) attests, “The isolation, alteration, and combination of digital data facilitate the potential control over the image, as well as an entire frame, in ways that expand the expressive potential of digital filmmakers” (Cohen, 2014, p. 48). As an example, Heuring (2017) relates that in efforts to achieve director Ang Lee’s vision for his film *Walk*, “color, contrast, depth of field, 3D depth, composition, and camera movement all had to be rethought...the project stretched the capabilities and imaginations of every department” (Heuring, 2017). Today’s DoP must have deeper knowledge of the entire workflow (which itself is much more complex than it was with film) in order to maximise the increased palette of visual opportunities that now present themselves, thanks to the technology.

These new affordances affect the post-production realms as well. Editors still must integrate knowledge of story structure, cinematic language, pacing, audience psychology and other creative and technical elements in order to capably edit a narrative moving image piece. But the transition to non-linear editing and digital effects has opened whole new terrains for the storyteller (Fowler, 2012).

2.4.5 Preparing Screen Students for an Evolving Landscape

There are a range of opinions about what elements screen students require to prepare them for today’s dynamic screen workplace. Among them are explorations of the challenges around teaching emerging technologies such as Virtual Production (Boutellier & Raptis, 2023) and Artificial Intelligence (Bender, 2023; Levine, 2024); proposals for enhancing digital literacies (Cannon & Potter, 2019; Rakhimov, 2023); arguments for the inclusion of entrepreneurial skills in creative education (Fulton, 2019; Mateer, 2018; Sergi et al., 2023); and an exploration

of what it means to support students' transition to Industry 4.0 (Al-Maskari et al., 2024; Borrageiro & Mennega, 2023; Ravendran et al., 2023).

Another area that has emerged across all disciplines is the preparation for 4IR through the development of what come to be known as soft skills or 21st Century Skills such as communication, collaboration, critical thinking, problem solving, and various social skills. Much of the literature relates to educational applications in the context of their value in helping graduates attain employment (Al-Maskari et al., 2024; Borrageiro & Mennega, 2023; Hearn et al., 2023). Applications of 21st Century Skills in screen education have been explored in the context of the collaborative capabilities they support in screen work, which is very team dependent (Dooley & Sexton-Finck, 2017; Perry, 2018).

Whilst 21st Century Skills address how people work with others, particularly in a 4IR context, what is less apparent in the literature is discussion around the connections between the VUCA world out of which 4IR is emerging and the inner life, the mental and emotional scape, of the person who is being primed to contribute in this new environment. One way in which the inner person is being addressed in education is in the development of self-efficacy training. Self-efficacy, as introduced by Albert Bandura (1977) is the experience of oneself as competent and successful in task achievement (Bandura, 1977) as part of his social cognitive theory. Self-efficacy involves a sense of mastery over challenging demands and

can be regarded as a self-confident view of one's capability to deal with certain life stressors. [...] Self-efficacy levels can enhance or impede motivation. People with high self-efficacy choose to perform more challenging tasks. They set themselves higher goals and stick to them. Once an action has been taken, high self-efficacious persons invest more effort and persist longer than those low in self-efficacy. When setbacks occur, they recover more quickly and maintain the commitment to their goals. Self-efficacy also allows people to select challenging settings, explore their environments, or create new environments. (Schwarzer, 1992, p. ix).

Building self-efficacy “requires that students experience overcoming obstacles through effort. Difficulties and setbacks actually serve a beneficial purpose. The struggle to overcome the obstacles teaches students that success usually requires sustained effort” (Bertrando, et al., 2005, p.8). Baird, et al. (2023) point out that “strengths-based interventions” have been effective in developing students' self-efficacy in their business programme, enabling the students to “hit the ground running” after graduation (Baird, et al., 2023).

As self-efficacy training is being incorporated into a variety of educational contexts (Capron Puozzo & Audrin, 2021; Payne & Whitworth, 2022), a case can also be made for it to be more routinely embedded into screen curricula as a framework for supporting confidence and stability in students who are entering a dynamic and precarious field. Working successfully within screen involves a multifaceted set of competencies, including organisational abilities, technical proficiencies, communication skills, and adeptness in more nuanced aspects such as an ability to “read the room”. These and other interpersonal skills are key to effective collaboration, say Henry & Maric (2023). As screen work draws on different parts of the person, the development of self-efficacy training for screen might look to be integrated across the different domains that comprise the whole person (Henry & Maric, 2023).

Bloom et al. (1956), divided learning objectives into three principal domains. Expressed here very simply, they are: the Cognitive domain, related to mental processes including the acquisition of knowledge; the Affective domain, relating to feelings, emotions, and attitudes; and the Psychomotor domain, relating to the physical skills involved in task execution (Bloom et al., 1956; Hoque, 2016). Whilst self-efficacy can be largely seen to focus on cognitive processes, such as goal setting and approaches to challenges (Schwarzer, 1992), it also involves affective processes, such as responses to stressful situations and regulation of one’s emotions (Bandura et al., 1969).

Focusing on emotional competency is not unfamiliar within the realm of creative practice education. Shreeve (2007) points out that “When students and tutors are engaged in [...] creative processes, they are required to bring in not only intellectual reflections and analytical skills, but also their entire self, including their emotional interpretations and embodied knowledge, to ways of working” (Shreeve, 2007, p. 139). Teaching the expression of emotion and creativity skills together, Maliakkal et al. (2016) observed that students “showed a more positive attitude toward changing directions or techniques, even when in the midst of a creative task” (Maliakkal et al., 2016), indicating that affective learning, particularly in a creative context, can help bolster students’ confidence around change. Feldges (2024) argues that affective states “are a fundamental necessity” for “the sort of learning that transforms the student in his/her view of the world, the view of her/himself and his/her relation to the surrounding world. It is the sort of learning that is [...] the forming of a person, making them able to take a meaningful and worthwhile place in a society” (Feldges, 2024, p.4). Rice and Stewart (2024) also offer that practices of mindfulness can play a valuable role in affective

learning as they can assist reduction of anxiety and depression, raise students' attention, lift their self-esteem, and engender empathy for others (Rice & Stewart, 2024). Emotional agility, empathy, and a high level of self-efficacy are important capabilities for screen education to cultivate within the budding screen practitioner. They can help to ground these nascent creative technologists and provide a ballast in this climate of continuous change.

One pursuit that has been found to be of value in enhancing both students' screen skills and their sense of engagement and connection is the creative use of moving image technologies towards positive global change. Whewell et al. (2022) has found that "The process of connecting and co-creating as digital makers provides university students with a productive arena to make decisions, solve problems, and effect solutions as changemakers" (Whewell et al., 2022, p. 6691). In support of the role that the creative educator can play in students' sense of connection with the world, Smilan (2023) offers that "Art educators teach about important societal concepts while developing visual literacy and technical, media skills; we also have the opportunity to combat the endemic apathy born from our reluctance to introduce what is seen by some as controversial subject matter. Teachers must be sensitive to pupils' stress and anxiety." (Smilan, 2023, p. 108) "As important as it is to acknowledge the growing sadness, anxiety, and anger when teaching climate, it is equally important to emphasize solutions and opportunities to get engaged" (Bentz, 2020; quoted in Smilan, 2023, p. 108).

2.5 NEW ZEALAND SCREEN

So far in this literature review I have considered the changing nature of work with a focus on the screen industries. I have discussed the effect of technological disruption on jobs and have explored how we might prepare future screen practitioners to work in an evolving screen landscape. In this section, I will be focusing on New Zealand, including a contextual overview of the New Zealand screen industries and a short discussion of selected aspects within screen education in New Zealand.

2.5.1 The New Zealand Screen Industry – A Contextual Background

Films have been made in New Zealand since the first years of the 20th Century, though until 1978, the frequency with which films were produced was sporadic. Independent film grew slowly in the 1950's and 1960's, and was financed in a variety of ways, often from private investors or funded by the filmmakers themselves (Clydesdale, 2015). In 1978, the New Zealand Film Commission (NZFC) was established as a framework to provide government

funding and to shape policy with regard to the production of New Zealand-made film production (Dunleavy & Joyce, 2011). Between 1978 and 2001, the NZFC funded 112 feature-length films and 232 short films (New Zealand Film Commission, n.d.), and was the primary source of funding for New Zealand-based films.

A sea change occurred in 2001 with the highly successful *Lord of the Rings* (2001-2003), which brought a significant boost to the New Zealand screen industry, the New Zealand economy (from expenditures related to the production as well as from tourism reinvigorated by the film), and to the visibility of New Zealand on the world stage (Clydesdale, 2015). There is now an influx of international production companies who come to New Zealand to shoot their films. The importation of these films is buoyed by the New Zealand Screen Production Rebate (NZSPR) (originally called The New Zealand Screen Production Grant), which was set up by the New Zealand government in 2014, and is administered by the NZFC, to support screen production both domestically and internationally. Between 2015 and 2020, there was a 20% rise in production expenditures (money put back into the economy) by the screen industries in New Zealand. A full 90% of those expenditures was associated with international productions (Toi Mai Workforce Development Council, 2023).

The NZFC continues to fund New Zealand films directly in addition to offering rebates through a part of the NZSPR dedicated to local production. In financial year 2023-2024, the NZFC approved rebates for 39 New Zealand productions totalling \$78 million, and for 25 international productions totalling \$228 million. On the 13 international productions that started shooting in New Zealand during this period, 82% of cast and crew were New Zealanders (Te Tumu Whakaata Taonga | New Zealand Film Commission, 2024).

Despite this ostensibly healthy picture, funding for production of features and short films in New Zealand remains vulnerable to fluctuating economic conditions and shifting public policy (Dunleavy & Joyce, 2011). For example, neoliberal factions within the recently elected conservative New Zealand government have argued for scrapping the NZSPR entirely, labelling it “corporate welfare” (O’Brien, 2024). The government has since renewed support for the rebate, but there was little transparency about how long that support would last. Additionally, in July 2024, the NZFC saw a reduction in funding from its two primary sources. The Ministry for Culture and Heritage (MCH) will be allocating 7.5% less in financial year 2024/2025 than the previous year, and funding from the Lottery Grants Board (LGB) will be 3.4% less than the previous year (Apostolou, 2023; WIFT NZ - *A List of NZFC Updates*, 2024).

The direction of these trends is difficult to predict, as is their impact on screen careers, or indeed on the entire New Zealand screen industry. But they do add another layer of precarity to test the passion and commitment of the New Zealand screen practitioner.

Meanwhile, continuing production on domestic and international features and shorts, on television series, on commercials for both television and for online, and music video productions, has created an increased demand for skilled screen practitioners to serve as pre-production, production, and post-production personnel. Whilst New Zealand boasts a sizeable roster of skilled crew, support organisations – both governmental and NGO – have identified that there are still not enough trained workers to fit the current and anticipated needs (Ministry of Business, Innovation & Employment, 2023). To address this skills gap, a strategy was formulated to provide industry training to meet the demand. This will be lightly discussed in the next section.

2.6 SCREEN EDUCATION IN NEW ZEALAND

Until the early 1980's, there was no formal film training; fledgling film workers acquired skills on the job in apprenticeship scenarios. The marked increase in film production that resulted from the establishment of the New Zealand Film Commission in 1978 created the need for more trained filmmakers and crew, which led to the development of film programmes within higher education institutions (Clydesdale, 2015). Currently, out of the eight universities in New Zealand, six offer some sort of screen education. In addition, at least three of the institutes of technology and polytechnics in New Zealand offer screen programmes as do four of the private training establishments. Despite the thirteen screen programmes across New Zealand, there is still research to evidence a “mismatch between skills training, vocational pathways and industry needs” (Toi Mai, 2023).

To this end, Toi Mai, the New Zealand government's Workforce Development Council for the arts, joined with the screen industry in early 2024 to establish Kahurangi Toi Atea, the National Screen Industry Training Programme (NSITP) with its first campus in Christchurch. It aims to provide industry training to students from a diversity of cultures and income brackets and to narrow what is understood as the screen industry skills gap (Timoteo, 2024; *WIFT NZ - Share The Knowledge Opens Opportunity*, 2024). This represents a departure from current screen education models in New Zealand and could prove more responsive to a dynamic industry. As a screen educator, I am partially encouraged by this effort to broaden the skills base and increase the trained workforce for our growing film industry. It is worth noting, however, that

the initiative would appear to favour a more employer-centric model for creative industries education over more the artistic drivers that characterise some film schools, such as in the manner described by Boyum & Pradl (1974). Time will also reveal if, and the extent to which, this new entrant into the already crowded field of New Zealand screen skills training institutions concerns itself with preparing its aspiring screen practitioners for resilience and adaptability in a steadily changing set of industries.

Parallel to the variable levels of support for the screen industries in New Zealand, higher education is also subject to volatility and uncertainty. Whilst all areas of tertiary study are affected, what follows is important to consider as a backdrop to screen education. 2022 and 2023 saw job losses across the university sector in cost-cutting measures as a response to declining enrolments and rising operational costs (Ellingham, 2023; Gerritsen, 2022, 2023; Ross, 2024; Sinclair, 2023). It is important to note here that that there are more than job losses at stake, as Gaston (2023) points out: “When departments no longer have the critical mass to sustain a full teaching programme in a given discipline – when you can no longer teach a recognised major – student numbers will continue to fall.” (Gaston, 2023, para. 9). Amidst this precarity, the educators left standing must still create supportive learning environments for their students.

Meanwhile, the institutes of technology and polytechnics (ITP) sector has been undergoing significant upheaval since 2019, when the government announced the Reform of Vocational Education (RoVE) in response to financial inefficiency and a fragmented vocational education system. The intention was to centralise funding and training models. RoVE established the New Zealand Institute of Skills and Technology (Gerritsen, 2019). Referred to by its Māori name, Te Pūkenga, this entity subsumed all sixteen institutes of technologies and polytechnics (ITPs) in New Zealand, along with all nine private industry training organisations (Hipkins, 2020). The development of Te Pūkenga had been in the planning phase for four years, when New Zealand voters elected a new government who oppose this consolidation, and who promised in their campaign to dismantle Te Pūkenga. As of this writing (late 2024), Te Pūkenga is indeed in the process of being disestablished (Smyth, 2024). Vocational training will revert back to regional governance, but the government has signalled that there will be fewer than the sixteen ITPs that there were at the beginning of the process. The number mentioned has been between eight and twelve (Gerritsen, 2024). As an educator within this system, I and my colleagues have been functioning in an environment of uncertainty for several years. In

continued efforts to foster a learning environment in which students feel safe to take creative risks, we consciously strive to shield them from the precarity that pervades our world just outside the classrooms and studios. We are endeavouring to provide a foundation of stability upon which students can securely prepare themselves to thrive in an unstable landscape.

2.7 SUMMARY OF LITERATURE REVIEW

In this literature review, I have looked at the changing nature of work in all industries as well as the precarious and often ephemeral nature of work within the creative industries. I have zoomed in on the evolving screen landscape by looking at examples of technological disruptions within the sector and have discussed how these disruptions are affecting screen jobs and adding to uncertainty amongst screen practitioners. This led to considerations around preparing students, amongst whose culture a level of anxiety currently pervades, for an ever shifting and precarious screen landscape. Amongst these preparations, I've looked at the development of competencies that might enable screen practitioners to weather ongoing changes. Finally, I focused on New Zealand, beginning with a discussion around the precarity in the funding structures for the screen industries here and finishing with a look at a similar precarity underlying higher education in this country, which includes screen education. It is hoped that this survey of change provides valuable background and context for Chapter 4, Results, in which the research participants recount their lived experiences of change in and around the New Zealand screen industries.

Predicting the future is an exercise that falls somewhere between impossibly difficult and totally pointless. But we can speculate with some certainty that we will continue to see more change that will occur faster and faster. There is truth in the maxim, however banal it might be, that the only constant (will be) change. Whether we are talking specifically about the screen industries or about society as a whole, are we ready for this change? And if not, what might readiness look like?.

Each generation shapes not only itself, but the foundation upon which the generations that follow will stand. Today is creating the context for the future. When we map generational behaviour and value trends (Lee, 2022) to human history, we can see that behaviours and values shift along with the social, political, and technological environments that generated them. The stories of the past are shaping the untold stories of the future. This is expressed elegantly in the Māori whakataukī (proverb) “Ka mua, ka muri”. Paraphrased as walking backwards into the future, this bit of wisdom expresses the importance of looking to the past to inform the future.

What can we learn from people who have experienced change that might help us prepare for a future of change?

CHAPTER 3: METHODOLOGY

As discussed in Chapter 2, the New Zealand screen industries have seen significant and continuous changes that mirror similar global shifts. These changes have affected both those who work in and around these industries as well as those whose mission it is to educate the next generation of screen practitioners for work within them.

In this chapter, I will describe the study's research philosophy; explore some of the relevant concepts behind my chosen methodology, discuss my positioning as a researcher; explain my method of data collection; and elucidate my analytical method. Throughout it all, I will endeavour to rationalise the methodological approach and the methods employed by connecting them back to the Research Question.

As discussed in the introduction, the overall objective of the research was to identify and explore the lived experiences of change in both the screen industries and in screen education in order to provide screen educators with resources to empower the screen practitioners of tomorrow with tools and/or techniques for proactively responding to the changes that are still to come in the dynamic screen domain. The Research Question that guides this work is therefore:

How have people who work in support of New Zealand's screen industries experienced change in these industries and how might these experiences be used to promote greater adaptability amongst future screen practitioners?

3.1 RESEARCH PHILOSOPHY

This section explains and justifies the approach used in the research.

3.1.1 Ontological Position

I embarked on this research hoping to better understand the continuous changes unfolding in the screen industries, particularly in New Zealand. I soon realised that this ongoing evolution could not be captured from a single vantage point but would need to be viewed from multiple perspectives. This reflects my worldview that there is very rarely a single truth or one objective reality that needs only to be scientifically identified to be deemed real. Instead, I resonate with a more subjectivist ontological paradigm which holds that the truth of any given phenomenon does not objectively reside in the phenomenon itself but rather in the interpretation of said

phenomenon by the person experiencing it. Given that two people experiencing the same phenomenon may walk away with two entirely different understandings of the truth around said phenomenon, it stands to reason that the phenomenon's truth lies in the experiencer's interpretation of that experience through the filter of their own already-existent knowing. This leads into my interpretivist epistemological stance.

3.1.2 Epistemological Position

The connection between a phenomenon and the person perceiving the phenomenon are inextricable because their very perception of it is filtered through the contextual window of the experiences, assumptions, beliefs, cultural perspectives, subject expertise, and theories that they bring to the moment of perception. These elements, referred to in Hermeneutics as *pre-understandings*, inform how we interpret, and thus how we 'know' something to be true. As reality can be interpreted through multiple perspectives, and thus be ascribed multiple meanings, both the *knowing* of that reality and the sense of its meaning, are directly connected to the knower's pre-understandings. More often than not, what is perceived as knowledge of an experienced phenomenon is, in fact, a set of interpretations.

In the context of academic enquiry, a researcher might see the analysis of their data as their primary interpretation. But the very determination of what data will be collected, along with the method of collecting it, are also interpretations. To assert "I will analyse this situation by employing such and such a method" is to have already interpreted the task, and thus coloured the meaning of the situation to be analysed. The assertion makes a declaration about what the situation is as a situation, already delimiting its definition. As Palmer (1969) puts it: "...all method is already interpretation. [...] Explanation will certainly rely on the tools of objective analysis, but the selection of the relevant tools is already an interpretation of the task of understanding. [...] Analysis is interpretation; feeling the need for analysis is also an interpretation." (Palmer, 1969, p. 236)

My research delves into changes in both the New Zealand screen industries and in New Zealand screen education through the lived experience of selected practitioners. Not only did these participants recount their experiences of change through the lens of their own interpretations, but then I, as a researcher who is situated in the research, have further interpreted these collected experiences through my own understanding of their relevance, significance, and connection to the Research Question. As both a filmmaker speaking with filmmakers and an

educator speaking with educators, my relationship to the research begins with a foundation of my own lived experience.

3.1.3 Axiological Position

As a human in the world, the researcher unavoidably brings with them into the process of analysis both their pre-understandings and, by extension, the values they hold around the area being researched. As Creswell (2013) points out, “All researchers bring values to a study, but qualitative researchers make their values known in a study. This is the axiological assumption that characterizes qualitative research.” (Creswell, 2013). Hart, in his article “Axiology – Theory of Values” (1971), relates that “The notions of good and bad, right and wrong, beautiful and ugly are as old as the real and apparent. Valuational preferences are not artifacts we can dispense with. Inquiry into the claims, truth, and validity of value judgments is a necessity of life itself. The concept of value permeates our life at every step” (Hart, 1971). Hermeneutic Phenomenology takes this into account by encouraging the researcher to explicate their values and to acknowledge them as being part of their “horizon of understanding”, thus bringing them transparently into the research.

The horizon of understanding, simply put, refers to everything that one can see from their vantage point. It is the lens through which they view, and therefore interpret, the world and is frequently based on adaptations to previous experiences. As such, one’s values are both informed by, and inform, one’s horizon of understanding. Research conducted through an interpretivist paradigm does not claim to be expressly and solely objective. Rather, it embraces the researcher’s stance as a subjectively involved party. In the Hermeneutic Phenomenological approach to meaning construction, the horizons of understanding of both the participant recounting their experience and that of the researcher themselves are considered. Creswell (2013) stresses the importance of minimising the distance between the researcher and the researched (Creswell, 2013) in hopes of reducing what Guba & Lincoln (1988) refer to as the “objective separateness” commonly found in non-interpretive paradigms (Guba & Lincoln, 1988). In Appendix A , I have listed the pre-understandings, the assumptions, and the values that I brought with me as I entered into this endeavour. This list represents a significant part of my own horizon of understanding.

3.2 RESEARCH DESIGN

This section will discuss the overall methodological approach to this research and will detail the methods used for gathering and analysing the data.

3.2.1 Methodology

Focusing on the lived experience of change, this research is engaged in through a phenomenological framework. Phenomenology is an approach to qualitative research that focuses on the commonality of a lived experience within a particular group. Creswell (2013) argues that phenomenology is appropriate when the research problem requires a profound understanding of human experiences common to a group of people (Creswell, 2013).

At its most basic, the essence of Phenomenological research is the exploration of “experience as lived” (Peoples, 2021). Going a step deeper, Van Manen (1997) sees it as “a search for what it means to be human” (Van Manen, 1997), and Heidegger (1927/2010) frames Phenomenology as the pursuit of a rich and layered understanding of the experience of *Being* (Heidegger, 1927/2010). As I began to think about capturing and exploring the nature of change, it instantly became very clear to me that change itself is ephemeral, and that the most compelling method for capturing and exploring the nature of change is through people’s experience of it. Phenomenology is thus a wholly appropriate framework for a qualitative enquiry into change as it applies to the activities of screen production and screen education.

Phenomenology has a rich history and there are a handful of varieties of this philosophical framework, but the primary two are: Descriptive (a.k.a. Transcendental), as developed by Husserl (1859-1938), and Interpretive (a.k.a. Hermeneutic), as developed by Heidegger (1889-1976). This study will be a hermeneutic enquiry, borrowing from the thinking of Heidegger, Gadamer, Van Manen, Taylor, and others.

Both branches, Descriptive and Hermeneutic, call on the researcher to make explicit their pre-understandings, but to very different ends. The Descriptive Phenomenology of Husserl (1999) seeks to eliminate any colouring that the researcher’s experience or perspective might bring to the research, either consciously or subconsciously. This filtering of what is considered researcher bias is accomplished through a process of “bracketing” (excluding) these pre-understandings from the equation (Husserl, 1999). This runs counter to my philosophical stance which reflects the view held by Gadamer (2013) that the researcher, being ‘in the world’ and profoundly influenced by the traditions of their culture, “brings certain background

expectations and frames of meaning to bear on the act of understanding. These cannot be bracketed” (Koch, 1996, p.176).

In contrast to Husserl’s maxim to eliminate any traces of the researcher’s pre-understandings, the Hermeneutic Phenomenology of Heidegger (1927/2010) embraces the lived experience of both the researched and the researcher and offers an approach to data analysis whereby the horizons of understanding of both parties are defined, deconstructed, explored, and then reconciled. The result is a “fusion of horizons” (Gadamer, 2013) whereby the lived experience of the interview participants, as seen through the situated researcher’s window of experience, is processed mindfully into an interpretive analysis. The fusion of horizons concept is a compelling approach for weaving together the multi-perspectival understanding of reality at the heart of the interpretivist paradigm that underpins this research, and therefore aligns nicely with its underlying philosophy.

My experience as a practitioner in the both the screen industry (25 years) and in screen education (20 years) affords me a particular horizon of understanding which will provide a valuable jumping off point from which to construct an interpretation of the data that emerges related to the continuous changes experienced by the screen industries and by screen education. Each interpretive analysis of each participant’s recounting of their lived experience will comprise a bespoke fusion of horizons that I have synthesised into a broader interpretive overview.

Hermeneutic Phenomenology (HP) is an appropriate fit for this research because it focuses on understanding the meaning behind experience through rigorous iterations of interpretation. I will employ an HP lens to my systematic engagement with the interview transcripts, ultimately constructing an interpretation using Reflexive Thematic Analysis.

3.2.2 Methods

This section will discuss the methods I will employ in conducting this research. I will begin with an explanation of the HP process of identifying the frame of reference through which I engage with this research. I will then describe my approach to the interviews process and will complete the section with a walk through my process of data analysis.

3.2.2.1 Identification of Pre-Understandings

An important early step in this process is that of identifying my own horizon of understanding, which includes what I think I know to be true - my “pre-understandings” (Fleming, et al., 2003) - about change in the screen industries and in screen education. The process of identifying pre-understandings involves the researcher engaging in self-reflection of both their experiences and their beliefs in the area being researched, with the intention of bringing to the surface any overt, hidden, or unexamined prejudices that contribute to their overall “horizon of understanding”. This essential step in the HP process is based on the notion that knowledge is never developed from ‘ground zero’ but is always built on a foundation of one’s already-developed knowledge (based on experience, accumulated knowledge, beliefs and assumptions, customs, interests) related to the area being researched (Alvesson & Sandberg, 2022).

A discussion of my pre-understandings can be found in Appendix A: Pre-Understandings. Here are some of the key points from this list. These are a combinations of things I “know” to be true and assumptions that have heretofore informed many of my actions and ideas about screen:

- Higher education is a valid and reliable platform for training people how to work in screen, but it is not sufficiently preparing students for the rapid changes that are occurring within the screen industries.
- Young people who are seeking to enter the screen industries need to learn a combination of traditional film skills and skills in current and emerging methods of screen creation.
- What was once just called “film”, then “film & television” is now known as “screen”, and is comprised of a number of different but related industries. Some of these are: large-scale, mostly international narrative feature films; smaller-scale, mostly local narrative and documentary films; television programming of various types; advertising for television and for online content; very short form narrative for social media delivery; content for emerging platforms, such as augmented reality and virtual reality.
- Enrolments in film training programmes in New Zealand is decreasing, leading to dwindling financial support for screen programmes.

3.2.2.2 Interviews

The research question of this study asks how people who work in support of New Zealand's screen industries have experienced change in these industries. After considering data-gathering options, including surveys and focus groups, I concluded that interviews were the most effective method for gathering rich information to address this question. Whilst both surveys and focus groups are valuable for more targeted data-gathering, I felt that both were structurally more limiting as tools for enabling participants to explore their lived experience of change. In my view, face-to-face conversations held a far greater potential to convey detail and nuance than the other methods listed above.

So, in this qualitative cross-sectional study, I conducted semi-structured interviews with nineteen participants who represent a variety of interests related to screen production and screen education. The idea was to capture change experiences from a variety of vantage points in hopes of attaining a triangulated snapshot of current stage of evolution in screen and in screen education. All interviews were conducted on Zoom and then transcribed verbatim.

The interviews were guided by a list of questions that remained consistent across the different cohorts of interviewees. This consistency enabled me to compare and contrast answers across cohorts in the analysis stage. True to the nature of the semi-structured interview, I allowed the interviewees to expand and augment their answers (within reason) to enable a richer and more layered recounting of their change experiences. At times, I would follow the participant's thread by asking additional clarifying questions. This was in keeping with the Phenomenological process of achieving understanding through explication of the lived experience. Interestingly, Gadamer (in Fleming et al, 2003) preferred the term "gained understanding" to describe the process normally referred to as "data collection", believing it to be truer to the intention of HP (Fleming et al., 2003). The full list of questions can be found in Appendix B: Interview Questions.

3.2.2.3 Analysis

Reflexive Thematic Analysis (RTA) is a wholly appropriate method to make manifest the Hermeneutic Phenomenological philosophical viewpoint that frames this research. Both embrace an interpretivist approach and share the understanding of the researcher's role as engaging in meaning-making.

RTA is a “theoretically flexible method” for analysing qualitative data, and, like Hermeneutic Phenomenology, endeavours not to eliminate subjectivity (“researcher bias”) from the equation, but to embrace the researcher’s experience and perspective as important elements contributing to interpretation of the data. Thus, rather than striving for objectivity or for accuracy in data analysis, a deep and rich reading of the data is sought, leading to a more complex and nuanced understanding than would have otherwise been apparent. These understandings are achieved by bringing together the various ideas expressed within the data into larger themes. These themes are not simply reorganisation of the expressed ideas, rather they are considered by Braun & Clarke to be “analytic outputs” in themselves. Themes do not emerge from the data on their own, rather, the researcher, as part of the RTA process, creates the themes through systematic immersion in the dataset combined with their own situatedness in the research itself. Braun & Clarke hold that “data analysis is conceptualised as an art not a science; creativity is central to the process situated within a framework of rigour” (Braun & Clarke, 2022).

3.2.2.3.1 Initial Organisation of Data

The data was viewed and reviewed numerous times in the process of familiarisation, immersion, and iterative interpretation through a Hermeneutic filter. Elements of this filter include the lens of my own situatedness in the research as well as use of what is known as the “Hermeneutic Circle” (Martin, 1972) to alternate my perspective from the granular to the overview, back to the granular, and various positions in between.

The transcripts were combed through and excerpts were extracted based on their relevance to the research question. The parts of the participants’ answers that had no relevance to the research question, or that drifted too far afield as to be valuable, were not extracted. The excerpts were organised in an iterative variety of arrangements to enable me to look at the data from different angles. A mind map of this initial organisational process can be found in Appendix C: Analysis Mechanics.

3.2.2.3.2 Coding

Employing a hermeneutic/RTA approach to the data excerpts, I coded them through my perspective of situatedness within the research (Ciborra, 2005; Slaby, 2017). Braun & Clarke (2022) frame coding as “a subjective process, shaped by what we bring to it” (Braun & Clarke, 2022), and Saldaña (2013) points out that “your level of personal involvement as a participant

observer...filters how you perceive, document, and thus code your data” (Saldaña, 2013, p. 7). A variety of coding methods – defined and articulated by Saldaña (2013) - were employed in the initial coding phase, facilitating a multi-dimensional view of the data prior to the development of candidate themes. The interview excerpts went through five iterations of coding, moving gradually from a more semantic to a more latent approach. This iterative process was undertaken in the quest to create interpretive codes and patterns of codes (themes) that reflected with the most integrity the essence of the participants’ experiences of change. Once the coding iterations settled, the resulting list of codes supported the development of themes. This process is detailed in Appendix D: Themes, Sub-Themes and Codes.

3.2.2.3.3 Theme Development

A theme, say Braun & Clarke (2022), “captures shared meaning, united by a central organising concept” (Braun & Clarke, 2022). Like coding, the process of theme development also occurs in iterative stages. I created initial, or “candidate”, themes based on the codes I’d assigned to the excerpts in the previous stage.

In the early stages, there were a number of candidate themes, which gradually were combined and re-named to more clearly tell the story of the patterns they reflect. Also in this process, several codes were re-named and moved out of one theme into another, and many codes were discarded. I likened this process to a liquid being distilled multiple times in order to extract it in its purest form. This recalls the Phenomenological imperative to get “back to the things themselves”, referring to the idea that the only pure, raw form of lived experience occurs in the very first moment in which the phenomenon is experienced. Even in the next second, the experiencer is already engaged in interpreting it. Phenomenologists seek to get to the essence of that moment of lived experience (although with marked differences in approach between the Descriptive and the Hermeneutic Phenomenologists). The distillation of codes in this case was, for me, the equivalent of stripping away all that was not the essence of the stories that the collected interviews were telling.

Then I went back to the transcripts themselves, reading them several times to allow myself to get a sense for any meanings that lie behind and between the words, the latent meanings. The expectation here was that once I’d gone through the entire dataset, my understanding of the component codes, and even the themes themselves, would likely change. This process is in keeping with the Hermeneutic Circle, a fundamental concept of HP that regards the whole and its parts as inextricably interlinked. One cannot understand the whole before understanding its

parts and one cannot understand the parts before understanding the whole. Further, each can inform and affect the other (Gadamer, 2013; Martin, 1972). This is descriptive of the theming process in which reading (and sometimes re-listening to) the raw data; assignment of the codes; and development of the themes are woven together in iterative cycles (Peoples, 2021; Alsaigh & Coyne, 2021; Dibley et al., 2020).

Themes are not subject categories or topic headings; they are clustered patterns of meaning that interpretively capture facets of the participants' lived experience through the hermeneutic lens of the situated researcher. The naming of themes is in itself an interpretation, as the theme names represent the emergent ideas that the researcher values as significant to a fresh understanding of the phenomena at the heart of the research (Dibley et al, 2020; Braun & Clarke, 2022).

Once candidate themes are developed, another process round of review and revision commences in the spirit of the Hermeneutic Circle, whereby data, codes, and themes are reconciled once more, but now with a deeper and more nuanced understanding of the whole and its parts. Here, the researcher moves backwards and forwards to ensure that the developing story is consistent, is accurately reflected in coding and theming, and that no major points within the data have been omitted.

The types of issues that the participants were concerned about were as varied as the different philosophical approaches to change that their responses reflected. Throughout the process of coding the interviews, I endeavoured to remain as open as possible to the different kinds of stories that the data wanted to tell. This was in keeping with principles found within both Hermeneutic Phenomenology and Reflexive Thematic Analysis. In order to maximise my flexibility in the upcoming stage of theme development, I coded the excerpts liberally so that I could consider the data through a variety of interpretive windows. This turned out to be both an advantage and a limitation.

The advantage was having a wider choice of avenues through which to approach the data, which afforded me the opportunity to consider the interpretative choices in a more balanced and inclusive manner. The broader the net that is cast - in this case, the more choices of initial interpretive possibilities of the data that could be found - the more opportunities there are for developing a thematic story that is most faithful to the intentions of both the aggregated participants' stories and the Hermeneutic window of the researcher. Braun and Clarke

emphasise that themes, in RTA, are to be regarded not as topic summaries but as “meaning-based interpretative stories” (Braun & Clarke, 2023). Hence the choice to generate a bountiful base from which to construct a rich, faceted narrative.

The limitation that this approach had on the research was that it brought more clearly into evidence the fact that the themes ultimately generated in this research are interconnected and overlapping. The experiences of change within and around the screen industries are complex and often occur on more than one level at a time. Many of the themes bleed into one another. At the outset of this research, I had envisaged that there would be clear-cut demarcations between the components of each sub-theme and therefore between each theme. My expectation was that each individualised aspect of experienced change would reside in its own cubicle and that each cubicle would fit neatly into a discreet sector of ideas. In fact, many of the codes connected with two or more sub-themes, which found them appearing as players across theme stories as well. For example, one participant is keeping a close watch on developments in trends in writing for Virtual Reality, while asserting that she’s glad she’s no longer in the screen industry fulltime because she’s “a bit over learning new stuff”. This was coded as both “numbed to constant change” in the sub-theme “Things are More Complex” which is an element of the theme “Faster, Cheaper, More Complex, More Competitive”; and also coded as “ongoing learning” in the sub-theme “Finding Pathways to Acceptance” which is an element of the theme “Leaning into Change”.

Ultimately, my decisions about which theme a given code would be assigned to were informed primarily by its frequency of occurrence and then by how compellingly each code added a unique or heretofore unrepresented voice to a given story. The overarching criterion, however, was the degree to which the code’s contribution to that particular story addressed the research question.

The themes that were ultimately generated reflect a set of commonalities shared by the participants and which, through my interpretive lens, combine to tell a story of how people who work in support of New Zealand’s screen industries have experienced change in these industries. A list of the final Themes, Sub-Themes and Codes can be found in Appendix D.

3.2.3 Framing of Results

The outcome of this rigorously iterative process is essentially a story. This story is a faceted exploration of the experience of change; in this case, change in the screen industries and in

screen education. But all stories are assembled from essential building blocks, and before this story is told, its building blocks must be in place. These are comprised of the systematic explications of how and why the themes were developed and an elucidation of the meanings that reside within each. These meanings are the components of the whole that will be explored in the Discussion chapter.

3.3 PARTICIPANTS

Purposive sampling was employed in the selection of the nineteen participants, each of whom represent at least one of five different aspects of experience within Screen:

These groups include:

1. Film industry veterans (FIV)
2. Members of organisations that support the screen industries (SIS)
3. Digital moving image practitioners (DMIP)
4. Academics who teach into screen programmes (SE)
5. Screen graduates who are currently working in the industry (SG)

The full list of interview questions can be found in Appendix B: Interview Questions. Broadly speaking, the interview questions are divided into four sections:

1. Factual questions

These are simple informational questions that require no exploration as they are merely asking the participants to identify their basic information as it applies to the research. Beginning each interview with these questions also functions as a sort of “warm up” to put the participant at ease with the format by asking questions that are easy to answer. Further, this section provides me with the required information to describe the participant in this study.

2. Change Stories

These questions are more exploratory in nature, prompting the participant to unpack changes that have occurred in the nature of their work/practice, to explain as specifically as possible how those changes affected them, and to share actions they took in response to these changes. The section begins by focusing on the phenomenon itself (what happened, what they did) and moves into the self-

evaluative by asking them how they might have responded differently if they had it to do over again.

3. Adapting to Change

In this section, the participants are asked to reflect on what capabilities they have that enable them to adapt to change and to stay employable. Jumping off from that, they are then asked to speculate on possible future changes and to share their estimation of how these might affect their career.

4. Has Change Changed Them?

Finally, the participants, are asked to look at their own change-response capabilities. Having recounted and reflected, in the earlier questions, on the impacts that changes in screen and/or screen education have had on them, the participants are now asked to take a reflexive glance at the degree to which their own ability to adapt to change might have shifted over the years, and if so, how. To triangulate around this self-reflexive prompt, the final question asks them if there is any advice they would give their younger self to be better prepared for change.

This progression of questions, prompting the participants to take increasingly deeper looks into their lived experience of change, was developed through a series of increasingly refined iterations. The question set was designed to be relevant to participants across the five categories, so the same questions were posed to all participants. The purpose of this was to establish a level foundation of enquiry from which to explore the participants' responses to change; the intention was not to draw specific data-driven comparisons across the categories. However, future research could compare and contrast change responses across demographic strata such as age, gender, cultural context, and time in the industry, although this would need a larger sample to attain comparison data that is meaningful.

Detailed descriptions of each of the five participant groups can be found in Appendix E: Interview Participants, along with explanations of the relevance of each participant group to the research, plus inclusion and exclusion criteria, and breakdowns of the distribution of participants across the five groups. A list of the questions themselves will be found in Appendix B: Interview Questions, a mind map of the workflow from transcription through analysis can be found in Appendix C: Analysis Mechanics, and a list of the themes, sub-themes and codes are in Appendix D: Themes, Sub-Themes and Codes.

3.4 METHODOLOGY SUMMARY

I have explored the value of Hermeneutic Phenomenology as a methodology that is well-suited to finding patterns of meaning within the shared experience of change in the screen industries and screen education in New Zealand. I have also discussed Reflexive Thematic Analysis as an ideal tool for bringing those meaning patterns together into a story that captures the ontological essence of the change experience. The nature of the research participants has been outlined, as has been the strategy for gaining insight into their lived experience of change. Next, I will dig into the Results of the data analysis (a.k.a. the “gained understanding”), which will be the building blocks for the story to come.

CHAPTER 4: RESULTS

The data's story is told in three themes, listed below, along with their sub-themes. Themes 1 and 2 reflect the participants' experiences of changes occurring in both screen production and in screen education. Theme 3 captures the participants' responses to those changes, including some of the approaches and strategies they've developed for adapting to change. Please refer to the Abbreviations and Definitions section at the top of this thesis for brief descriptions of the participant category abbreviations. More in depth descriptions of each participant can be found in Appendix E: Interview Participants.

4.1 THEME DESCRIPTIONS AND FINDINGS

In this section, I will define and briefly describe each theme. Following each theme's description, I will explore each sub-theme and share data samples that exemplify and illustrate the story told by that sub-theme. I have stayed true to the verbatim transcriptions of the interviews in order to offer a better sense of each speaker's voice. These include some pauses and oft repeated words.

In the final sections of this chapter, I will synthesise these approaches and strategies through my hermeneutic lens as a situated researcher.

4.1.1 Theme 1: Faster, Cheaper, More Complex, More Competitive

The core concept of this theme is converging pressures. This theme explores the experience, described in various ways across the dataset, of increasing expectations to do more with less and to do it ever faster. Participants in both screen production (a catch-all term encompassing pre-production, production, and post-production) and in screen education, have described steady reductions in the time allocated to prepare and employ their specialist crafts. There is a prevalent awareness that the financial resources that had previously been budgeted for a given process – including funding for the labour and the equipment required to complete it – are now much less than they had once been. At the same time, new technology continues to emerge, which gives rise to shifts in methods and approaches to virtually every sector of screen practice. This steady influx of new technology and new ways of doing things then requires additional time spent (off the clock) learning them, providing additional layers of complexity to their specialist knowledge. As the tools for screen content creation become accessible to more and more people, practitioners with established careers are finding themselves in an increasingly

competitive environment. There is a steady pressure to apply their existing skills whilst learning new ways to apply them with dwindling resources and less and less time and to compete with an ever-growing pool of practitioners.

What follows are excerpts from the participant interviews, organised around the following sub-themes:

Things are Speeding Up

Things Are More Complex

Screen Is Becoming Accessible to More People

There is More Competition Now, So Keep Up or Be Left Behind

4.1.1.1 Sub-theme 1a: Things Are Speeding Up

Respondents largely marvelled at the ways in which emerging technologies are enabling screen stories to be created with increasing speed. Seen from the perspective of a producer, this acceleration signals greater productivity. Screenwriter and Educator SE-10, has also spent years as a Producer:

The key difference is that we capture material WAY faster than we used to. And what that means is where we used to shoot three minutes a day of... you'd shoot material that once it was edited, would be the equivalent of three minutes a day finished work. Now, we shoot 10 minutes probably. So everyone... the whole process moves... and editing is faster as well, the whole process moves much faster. It's fantastic, it's wonderful. It's wonderful. (SE-10, personal communication, November 25, 2022)

Whilst this comment reflects a positive viewpoint of the faster pace of today's production environment, other participants experienced this acceleration differently, relating that the time available to accomplish the tasks required to practice their craft is shrinking whilst the performance expectations of them are growing. Cinematographer FIV-2 expresses concern that the steady decrease of available time to work will cause the quality of his work to suffer.

...the pressure of, of the call sheet, which just seems to be getting more and more squeezed, more and more stuff expected to get every day, makes it difficult. I mean, there's a sort of a challenge to that as well. But basically, you are, your compromises just go up and up and up. You know, there's always compromises on a film set, you know, whether, whether you've got two minutes to shoot, or 10 minutes to shoot of material a day. But if you've got 10 minutes of material to shoot a day, yeah. You know,

your craft, your ability to craft things and make things look how you want them to be breaks down some of the... it heavily compromises some of the prep that you put into a project. You know, there's less, there is less, there's generally less time given for me as a cameraman, to prep things on dramas. But I don't work on big, you know, big budget dramas, I mainly work on New Zealand dramas, so they tend to be a bit tighter on budget anyway. But yeah, I think there's just a general squeeze both time and creatively that makes my job harder and sometimes less enjoyable. (FIV-2, personal communication, September 15, 2022)

The steady reduction in time being made available for both preparation and for production extend into post-production, as SG-18, a creative technician in post-production sound attests:

Yeah, I think we are constantly expected to do things faster and faster in finding ways to do that, and unfortunately, cheaper and cheaper. And, y'know, that actually also creates the need to research tools to be able to do these things faster and faster. (SG-18, personal communication, December 29, 2022)

SG-18 touches here on an issue that will be discussed more in the next sub-theme, Things Are More Complex, concerning the need for practitioners to spend personal off-the-clock time researching ongoing technological developments.

One factor enabling quicker movement on set is the reduction in the size of equipment, making it lighter and more portable. Another is the fact that many types of filming equipment, such as lighting, that used to be fine-tuned manually can now be adjusted wirelessly. Some of these modernisations affect more than one department. SG-19, a Boom Operator, discusses how his job is affected by the reduction in the size of lighting equipment.

For me personally, as a boom operator, or first A.S. (Assistant Sound), things are mostly better with the new technology, because the lights are usually smaller, so you can, you know, move...manoeuvre around them. Less noise, you know, and it's, yeah, for me personally, anyway, I know a lot of people, a lot of soundies don't feel the same. But I quite like the new technologies, you know, means they're... they're...in there for, lighting department is in there for less time. Because as you know, it's not a it's not a three man job putting a rig up, because things are so light, and you know, everything moves a lot faster. And then also they, they control it, you know, off an iPad or something. So, instead of coming in and changing filters, which, which are often, you know, flapping in the wind and making noise, and then you got to deal with that, nowadays, someone says "aw, we want to, you know, put a stop in that or chuck an ND

in", and they'll just say, "Oh, hold on", and they'll just like change it on their little iPad thing. (SG-19, personal communication, December 14, 2022)

Along with the many change-driven challenges that screen practitioners face have also come changes that some participants have found helpful. For example, the shrinking size and weight of production equipment brings with it a reduction in the physical strain that once was part and parcel of being a crew member, as Cinematographer FIV-3 shares:

... what's changed mainly I think, is that I I trained in big crews and big camera crews. And you know, now everything's shrunk. Look at the lights have shrunk. And, you know, now I can carry my own gear, I guess, because everything's got smaller. I no longer have to visit the osteopath constantly. I mean, my osteopath almost became a friend. I've been going to the same osteopath for 30 years. But I hardly have to see him now because the gear's light and small and manageable. (FIV-3, personal communication, October 14, 2022)

SG-17, who, among other things, provides go-to-whoa production services as a contractor to SME's, experiences both advantages and disadvantages of smaller gear, pointing out that the greater efficiency afforded by increased portability also strengthens the case to employ fewer crew members. Ironically, technology's promise to make things easier has resulted in some crew members working harder than before.

It means that we can do more, but that also means that we can achieve more with less crew. So it's kind of a double sided blade there. You can do more with less, but you end up kinda... sometimes it means you end up working harder anyway. Because you can achieve those things without that extra person. But for the other side, when we're doing like corporates and stuff, I can do a hell of a lot on my own really easily. And I can make something look really nice and professional with what I can carry up the stairs in one go. So that's changed my job a lot. (SG-17, personal communication, January 13, 2023)

This is echoed by Boom Operator SG-19:

It just means I'm on my feet for longer and my arms in the air for longer. You know, there's less time in between. There used to be you know, you'd get a good ten-minute sit-down in between while someone else is fixing something, but now it's just a two second wait. [...] And then the producers expect more from you, because they know

things can move really, really fast. So they want you to do even more than you were normally doing. (SG-19, personal communication, December 14, 2022)

In addition to more expedited processes for lighting a set, SG-19 notes a knock-on effect of the increase in wireless connectivity in the Sound department.

Technology, I guess, less cables, a lot less cables, so things move a lot faster. But then you have more demands. So as a boom operator, I demand more from my production sound mixer, you know, I want, I want clear comms, I want a direct line to him, I want - him or her - I want certain channels going to my feed, I don't sometimes I don't want some feeds. I want private line, you know, all of that. And then when you're the production sound mixer, you know, your boom operator's demanding all those same things from you. And you're like 'uhh! Dammit', you know, there's a little bit of extra work but...

Q: And it didn't used to be like that when you first started, it was all pretty much hardwired except for wireless mics, or...?

Yeah, well, yeah, everything was... and you couldn't, you couldn't have separate channels, you know, so now we can send the director, you know, certain microphones, we can send the boom operator certain microphones, we can send a different mix to, you know, the producers, different mixes to the camera. So you can sort of control who hears what. But back when I first started, it was one, everyone gets the same thing. So you sort of had to get used to it. (SG-19, personal communication, December 14, 2022)

Whilst the steadily increasing speeds experienced in screen are a global phenomenon, FIV-1 views the New Zealand expression of it as being rooted, at least partially, in the fabric of the nation's culture.

I've always almost think we progress too quickly in this country compared to other countries. You know, everybody wants to be a DP overnight, basically, as soon as they come out of film school, and the people that are prepared to put in the long hours and the long haul, like I say, to eventually get further forwards are the minority, not the majority really. [...] I think it's the fact that we, you know, young pioneering country harks back to our roots that everybody wants to get really going as quickly as they can. (FIV-1, personal communication, June 28, 2022)

Increasing speed is not limited to the screen creation process, it extends to screen content itself, which then affects how screen is taught.

The pace at which we... at which you unravel the story and the cleverness that you need with how you structure your narrative has gone like that [indicates steep uphill direction]. [...] I think the pace of evolution in our industry and therefore in the teaching is just speeding up and up and up. I mean, other people might see it differently. But from but from what I see, it just keeps evolving faster and faster. And I think being a young person is a really useful attribute for dealing with that. (SE-10, personal communication, November 25, 2022)

There will be a slightly deeper discussion around the perception of some that screen is “a young person’s business” in the sub-theme There is More Competition Now, So Keep Up or Be Left Behind. Next, however, I will explore the increasing complexity that the participants have experienced as accompanying the ramp-up in speed.

4.1.1.2 Sub-theme 1b: Things Are More Complex

As a knock-on effect to the acceleration described above, participants noted that with the increase in new technology as well as significant upgrades to existing technology that are being steadily integrated into the production process, many of the ways in which they’ve been engaging with their practice for most of their careers are now transforming rapidly into newer ways with newer tools. Each new tool inevitably brings with it an adjustment in the methods used for accomplishing the task that the tool is designed to accomplish. The first adjustment is often the choice of which tool(s) to employ.

For cinematographer FIV-2, deciding which camera to shoot a project with used to be a much simpler process because the choices were much more limited.

One of the biggest changes - is the variety of technology that you're using to shoot with. You know, there's so many different digital cameras, whether it's for news gathering, or for doco, or, or drama, and everything else that goes with it, you know, lens sets. [...] I’ve been involved, say yes, almost 40 years. And certainly, the first half was, was all, well, drama, it was all film and you went to one place to get your gear from, and that was Film Facilities, which is now Panavision. And it was either 16 millimetre, and there was one or two cameras; or 35 millimetre, and there was really just one or two cameras for that, too. So there's, there's a lot more involved in choosing your gear for every job. (FIV-2, personal communication, September 15, 2022)

Part of what's involved is the copious ongoing research now required to stay current with steadily evolving technology. This has become an invisible, and unpaid, part of the job, as cinematographer FIV-1 illustrates:

Obviously, there have been massive technological changes, which are fantastic and to be embraced. But man, it sure takes a lot of work off your own back to keep up with the changes. I remember even 10 or 15 years ago, kind of bemoaning the fact that every three or four weeks, I was going off to the launch of another new camera and, you know, and having to learn what an FX-7 did or what a RED ONE did and how to drive it. [...] You've just got to do your homework and spend hours on the internet in the evenings. Checking out the latest stuff, going into rental houses going to trade shows where you can and launches of products and see what they do. (FIV-1, personal communication, June 28, 2022)

This added cognitive load also impacts the cinematographer's support crew with similar impact but different specifics. The First Assistant Cameraperson (1st AC) is charged with the technical stewardship of the camera. This job has become much more complex than it was in my sixteen years as a 1st AC, working exclusively with film cameras. 1st AC SG-17 describes his lived experience as a 1st AC managing a camera package today:

And as more stuff comes out, you get more options. And even new generations of things, there are changes within how they work. But there are also just entirely new pieces of equipment. ... And I know if I pick it up, I'm gonna break something because it's like, that would take so many hours to get your head around it to use it properly. And a lot of equipment is supposed to be getting more simple. I don't know, I just think that keeping up with it will be hard. Like it's your job. And if it's not your hobby as well, you'll have a hard time. [...] Yeah, deploying some of the stuff. It gets very Frankenstein. That's how I like to call it, so... because so many of these tools are quite cheap, DOP's will buy them and then... 'my friend's got this, so I'm going to buy that'. And then you hire off each other or you, you know, pro bono off each other, that kind of thing. But you end up sometimes having projects where you've got so many pieces of gear from so many places, and you're pulling it all apart and putting it all back together to make the rig work for the day. That is a huge challenge. And that... it's like a big puzzle. (SG-17, personal communication, January 13, 2023)

Sometimes the puzzle pieces don't fit together as readily one would hope, adding further complication to an already complex situation.

And it can be fun when you're doing it on the prep day. But when you're doing it, and you have to make a change, because now it's raining, or you're not getting the shot that you wanted, or whatever, really stressful, because a lot of the time the gear, it's all from different brands, and they're not meant to go together. But you can make them go together. So even though certain systems are supposed to be able to do everything, y'know, like the Ronin is supposed to be able to... you can pull focus on it - it's got its own little motor and everything - with the right lenses, y'know. So if you've got the wrong lenses, you have to use a different system. Now you've got a dummy system on there, too, or... Yeah, and then all these bits and pieces have to go back to the people and you don't want to steal someone's screw or their rods or their... y'know, it's... and by that point of the shoot, you just want to go home. Maybe everything's wet. And that's... you gotta return all this gear to these different people in, y'know, hopefully the same condition that you got it in, that's quite hard. Frankenstein builds, dodgy rigs, that that kind of stuff. Dodgy rigs used to be more of a thing with lights, setting up lighting. But we see it with cameras quite a bit too now, because the things you can do with them can end up quite precarious, because that's just that the gear is a lot more available. But it's not always compatible. (SG-17, personal communication, January 13, 2023)

It is possible, indeed likely, that the picture painted here is of screen technology in a liminal state between individual proprietary systems that characterised the early stages of the digital revolution and an upcoming wave of standardisation that may pervade once functionality begins to “settle” (if it ever does). Certainly, such a settling into more standard systems and methods would please post-production sound engineer SG-18.

It is a tricky one because ideally, I guess, in some kind of perfect world, you would, you would just have one set of tools that you would only ever need to use for the rest of your life. But with film & TV, that's just not a possibility because it's just... it's constantly updating, things are constantly coming out. [...] I just really, I guess I really forced myself to become schooled on the software side. I, I started just watching a lot of YouTube videos about how to use it. YouTube's always a great resource. (SG-18, personal communication, December 29, 2022)

Software is not just a post-production issue. As SG-17 explains, a lot of newer production equipment requires an app to make adjustments:

For me, the learning curve comes from the apps. That's what's hard is all of these devices have an app. So Teradeks for sending video, they have an app. And the Ronin

has an app. And the RED camera has an app. ... So if you want to change the settings on the camera, you got to Wi Fi to it, or Bluetooth to it or whatever, have the right app, login, the password, for some reason that camera needs a password, and then you can change the ISO. And everything is like that.[...] And it used to be physical systems where you'd have sliders and dials. And you could kind of follow the cable and see where it goes. But now when it's wireless, and it's just generic buttons, it's actually harder to learn. But someone's done it with the idea of making it simple. And that's their idea of simple. It's not like a generic... so every system now is totally different. And that kind of feels deliberate, to be honest. It's like every app is laid out differently, every... so that that kind of like benchmark, that standard of how you do stuff. (SG-17, personal communication, January 13, 2023)

It is almost always the Cinematographer who makes the choice of which camera platform to use on a project. The two Cinematographer participants at the top of this section (FIV-1 & FIV-2) describe the imperative to invest personal time learning the new tools as they emerge. Other Cinematographers embrace equipment evolution less enthusiastically, as these two Camera Assistants relate:

It is a decision that you make, to be like, am I going to be...adapt and use this technology and actually try to learn it? Or am I gonna just tuck that away and hope that we don't use it? You know? And there are people I've met quite a few people that do that, ... they'll have some spiel about how they don't use this particular piece of equipment, because that's not how they used to do it. You know, that's like, that's what technology's for you know, it's to make things easier. (SG-15, personal communication, June 24, 2022)

I know a lot of DOPs that will stick to one system. And they they'll only use RED, they'll only use Alexa, they'll only use that because they don't want to learn another system. So if you're in your little niche of the industry where you can get away with that, great, but if you have to use a lot of different gear that's going to get hard. You're not going to be able to use any of it to its full potential, I think. (SG-17, personal communication, January 13, 2023)

Increasing complexity in the screen sphere is also affecting those who work in areas outside of more traditional filmmaking structures. The “creative technology studio” that is co-owned and operated by DMIP-7, represents another facet of the screen industries. The studio creates

interactive websites as well as screen content in the VR and AR space. DMIP-7 is experiencing the complexity phenomenon in a similar vein as that experienced by those in the film & tv sphere:

And I think one of the things, it's actually really hard to keep up with it, because, you know, since [our company's] inception, at least, we were always about keeping up with technology and being at the forefront of it and being the thought leaders and actually explaining to others how this was done. And as the years have gone on, what you're doing is you're adding more and more and more and more elements. So then, in creative tech, because there's so much tech, that means we have to cover all that tech, you know, so. So over time, that becomes, um, that's cumbersome. (DMIP-7, personal communication, October 21, 2022)

Similarly, SIS-9, who works to attract investments and arrange growth opportunities for the screen industry, also needs to spend time keeping current on evolving developments in screen creation and delivery.

So I guess I see my role as an enabler or an advocate to the industry as opposed to being in the industry. Therefore, the change that's happening in the industry, I continue to try to enable and advocate for and I need to keep up to speed with the change. The latest example being virtual production, I guess. You know, having to understand that and what the implications might be on infrastructure, and of course, on jobs, but certainly infrastructure, from my point of view, where I sit. So the change, I guess I just go along with the change, and try to keep up and keep learning as opposed to being... it affecting my job as such, because the core purpose of what I need to do for the sector remains. It's about how I can help it to grow. Ultimately, I care about people having quality jobs. And, and part of that is ensuring that there are career pathways and that there is adequate training and training facilities and that all of those education enablers are in place. But for me personally, the change doesn't affect me apart from having to keep up. And possibly anticipate because we need to anticipate in order to advocate for what we know is coming down the line. (SIS-9, personal communication, October 21, 2022)

The groundswell of complexity brought on by a steady influx of elements being added to the experience of screen work has affected people in various sectors of both screen and screen education. Along with varying degrees of enthusiasm for the newness and for the sense of expanding possibility that evolving creative technologies offer, one can also detect an unease in their voices and between their words. For some, these feelings are not overtly expressed.

Other respondents, however, are more vocal in describing a sense of overwhelm and fatigue that has accompanied the experience of constant change.

Yeah, the fear for me is how much more am I going to have to learn on these systems because they are getting more different. (SG-17, personal communication, January 13, 2023)

I'm really glad I'm not full time in that industry anymore, because it's so hard. And so, and the way it's evolving would mean that I need to learn a whole pile of new stuff, and I'm a bit over learning new stuff. (SE-10, personal communication, November 25, 2022)

With a career that began as a camera assistant working on traditional film projects, DMIP-4 now runs a company that specialises in technologically innovative audiovisual solutions, primarily in the Virtual Reality and experience design realms. A thought leader in the Auckland creative tech community, DMIP-4 dwells in the world of possibility, yet today is quite concerned with the medium and long-term impacts that accelerating change and increasing complexity might have on humanity.

I'm starting to look at it quite negatively, so I've got to throw it off - but I worry that every single day is the... like, today is the day that humans are being asked the most of them than any days before. Like, you're getting more communication, you're getting more connectivity, you're getting more requests, you're getting more information fed into brain today than you were yesterday or any day before. And tomorrow will be the new: 'Today is the most you've ever been hit up with ads, and this!, and that!, and this!'. And technology is just going to keep adding and adding and adding and adding and adding to that. Because when you when you go back what like, let's go back, like 80 years, when people were writing letters and waiting four weeks for a reply, and you weren't getting an email back within 30 seconds. And life wasn't like this (snapping fingers). And so I can understand why the curve for change is changing. Because like the the the technology enabling that change speed is coming at us every day. And I would just worry what that actually looks like if it... because we look at burnout and mental health issues and stuff that we have today. Imagine what that's going to be like in 20 years. (DMIP-4, personal communication, September 2, 2022)

4.1.1.3 Sub-theme 1c: Screen is Becoming More Accessible to More People

This sub-theme is divided into two parts to enable a more granular look at the different effects that greater accessibility to screen creation tools is having on those who work in screen careers and on those engaged in the teaching and learning of screen.

4.1.1.3.1 Accessibility of Tools - Effect on Screen Practitioners

The reduction of size and cost has resulted in increased accessibility to the tools for creating works for screen and has enabled more people to “get into the game”. Most participants see this as a mixed blessing.

DMIP-5, who is currently the director of a company that creates content for delivery through Augmented Reality, began her screen career in the early days of digital post-production. Here, she describes her experience of the journey that digital post has made from labour and hardware-intensive proprietary systems (which she refers to as “boxes”) to consolidated applications that run on laptops.

I remember, in particular, going to a German film school, when we were demoing this \$1 million box, which was so ridiculously expensive, and so huge, you know, it was the size of a fridge, that people said, nobody is able to operate the system alone, you need 10 people to operate the system. Because back in that day, we had one person doing typography, we had one person doing grading, we had one person doing, you know, rotoscoping, everybody had a specific job. And all of a sudden, the digital revolution brought everything into one box. And the only systems...the only digital systems people knew back then was like your Harry and Henry, which was a black box. And it was very limited. You know, Harry was just rotoscoping. It was a smart rotoscoping tool. And Henry had the basics of animations. [...] I remember that the big fear back then - and this is like anything between '92, '93, '94, '95 - was that you would be able to run something like a Flame or Inferno on a Mac laptop, and now you can. And it was freaking people out you know, because it was...it was...the money was in the boxes. The money was in the computers. And the computers were so large and so expensive, they needed a whole separate room for cooling. If you didn't have an air conditioning system, it would heat up the room to 70 degrees. And in actual fact, even in the year 2000, when I arrived in New Zealand, we still had that system. It was still like that. So that change probably happened quite slowly, moving away from that to laptops and to, you know, systems that you could just run at home and carry around

with you and work from anywhere. (DMIP-5, personal communication, October 16, 2022)

Similar shifts have occurred on the image capture side. DMIP-4 embraces the increased accessibility of screen tools with a blend of zeal and trepidation, suggesting that the influx of people into the industry brings with it the potential for displacement of those who have spent years developing their careers and building their skill bases.

So when we started, the really only way to, it was very traditional ways to capture with a moving camera. So there was like dollies, cranes, some cable cams, and Steadicams. [...] To become a Steadicam operator, and a really good one, would generally take a couple of years, two to three years, whereas a gimbal technician, which effectively does the same thing, you can buy a \$2,000 gimbal, they're even cheaper than that now. You can learn it in a day and be out shooting the next day, and you really have mastered that within a couple of months. [...] You can now go buy a \$1,000 drone, learn to fly in a day and be capturing 4k cinematic shots by the next day. Whereas five years ago, you needed to buy a \$10,000 drone with a 4k camera hanging underneath, that took two months to learn. And previous to that you needed to hire a helicopter. So it's kind of, the scale of the costs of capturing these cinematic shots is just like creeping down while the quality is still going up, which is quite interesting. [...] It does create a bit of concern to people that have been in the industry for a long time that have kind of mastered skills that there are kind of a flock of people coming behind them. They've managed to get there faster. That's definitely a risk to the sector, but also an opportunity. (DMIP-4, personal communication, September 2, 2022)

Whilst not exactly a “newbie” (having graduated from film school in 2010), SG-17 is pleased with what is achievable with his own affordable gear.

People are still quite blown away by what is doable, what you can produce, what you can make, and the quality that you can make with just, y'know, the gear that we have access to without having to go and get like an Alexa or something. I shoot on my Black Magic. That's more than enough for most of what I do. (SG-17, personal communication, January 13, 2023)

Increased accessibility to screen creation tools is not limited to people who have already acquired film skills (through training, on-set experience, or through a combination of the two), nor are the newer tools confined to dedicated production equipment. The leaps in technical quality and functionality that smartphones have made in recent years have enabled an influx of

aspiring (and sometimes successful) filmmakers, and have elevated smartphone cinema into the arena of independent film on a quality level that is competitive with films made with more conventional cameras (Işıkman, 2018).

I mean phones have been able to do... you've been able to video edit on phones for like the past 10 years or whatever, but it's easier now. (SG-17, personal communication, January 13, 2023)

This has empowered a generation of young filmmakers and has provided countless platforms for the delivery of small and medium-scale independent films (Schleser, 2023). The initial surge of early small and medium-scale independent filmmaking, however, began before the advent of smartphone cinema. Its roots trace back to the advent of portable consumer video cameras, beginning with analogue camcorders in the late 1990's (Ebelebe, 2017). One New Zealander who has been enabling creators of small-scale films since those early days is SIS-8, a film director, film archivist, former cinema co-owner, and founder of two significant film festivals in New Zealand. One of these festivals encourages anybody and everybody with a camera and a film passion to submit a film to the festival/competition - as long as they follow a handful of very specific creative prompts (which change each year) and stay within a strict time frame. This festival/competition has been enjoying ever-increasing engagement since its 2003 inception. SIS-8 says that its formation was inspired by what he recognised as a sea change in the creative maker base:

Francis Ford Coppola said the next great filmmaker is gonna come with a handycam from Iowa, who's, you know, a rural kid or whatever. And so, which is kind of what was true. And that was... that's going right back when those first cameras became accessible to home consumers. And so [the festival] was sort of birthed from that which was my acknowledgement of my history of being a guerrilla weekend filmmaker making crazy little shorts with my brother and friends, and realizing that that, that accessibility was just going to go everywhere. And so [the festival] was an acknowledgment of like: this is really opening up and the gates have been blown wide open. And there's no such thing as, you know, this formal gatekeeper...gatekeepers to entry into the industry. And so, yeah, [the festival] was a celebration of that, and a really, sort of, hopefully a dismantling of those existing structures. (SIS-8, personal communication, September 9, 2022)

Increased accessibility to tools has been supported by the plethora of information available online today, bridging the gap between owning a camera, for example, and knowing what to do with it. This, of course, has not always been the case. DMIP-5 recalls the challenges she experienced in efforts to upskill in high-definition (HD) video after moving to New Zealand. She already had years of experience in Europe with standard definition (SD) post-production tools but found educating herself in the new standard to be an uphill battle.

I remember very clearly that we... in Ireland, we hadn't worked with HD. All of a sudden (in New Zealand), everybody was working with HD. And there was just this assumption that I would know what I'm... what it is and how you work it. And I remember saying, you know, like, we haven't actually worked with HD before, so I don't know too much about it. And it was straight away, you know, like sink or swim. Or maybe I wasn't very good at trying to find the right people to ask the right questions. And the other thing is, you know, some of the younger people might kind of like go "duh, it's all on YouTube and on the internet", but back then it wasn't, you know, and that's the thing. It was so much harder to find out information and to find the right people to talk to and to find, oh gosh, courses, information, anything, you know, it was it just wasn't so accessible. And so I guess this is probably where I envy our younger generation that they have all the information on their fingertips, everything is there. If you want to know something, if you want to learn something, you just need to start researching. And, and that's that's obviously, that was the hard part, you know, getting into something where there was just no information at all. (DMIP-5, personal communication, October 16, 2022)

4.1.1.3.2 Accessibility of Tools - Effect on Screen Education

The widening of accessibility and the broadening of what defines a filmmaker is having reverberations within tertiary film programmes as well. SE-11, an educator in a tertiary screen programme, describes his experience as his institution responded to the evolution of technology, a transformation that has given rise to greater accessibility to filmmaking tools, which has, in turn led to student ownership of their own technology.

The first NLE's (Non-Linear Editing systems) were colossally expensive. I think we went for the cheapest we could get, and we were still... we got a bulk deal for, I can't remember how many, nearly 100 systems and they averaged at \$25,000 each. But the following year, when we went to digital tape, we had to add a \$10,000 tape deck to most of those. [...] And then in around about 2010, 2011, we changed all the cameras to solid state. And that had two great impacts: one, we ditched the tape decks. So it

didn't matter what camera you... well, if... once you're in solid state, didn't matter which camera you used from our system as long as it was solid state. And the other thing was, we found that it... we... It eliminated an entire week from most practical courses. Because we no longer had to teach the ins and outs of making a capture list, capturing it, dealing with timecode breaks, dealing with the wrong tape number entered into the NLE, things like that. [...] And then from about 2015, with a great deal of acceleration probably in the last three, four years, students start editing on their own computers a lot more. (SE-11, personal communication, December 2, 2022)

One upside to increased accessibility to filmmaking tools is that students feel less daunted by them by the time they begin their tertiary screen education, as SE-12, who leads the film programme at another institution, notes.

Y'know, there's been a rather radical democratization of particularly post-production processes, but also production tools and equipment too. Y'know, when I started out, editor still felt like a very specialized role. Y'know, not to say that it's not, but I think the technology leaps to become an editor have really, those barriers have really shrunk. Students are often coming into our programs already familiar with editing softwares. I think there's less intimidation by that, that tool. (SE-12, personal communication, January 12, 2023)

This is indicative of an increasing sense of fluency and comfort with technology amongst students, a trend that I have experienced in my own teaching practice. One of the impacts this has on teaching and learning is that the students can progress more quickly than before through basic technology training into more advanced areas. This calls on academic staff to stay ahead of them and to continually provide them with new learning challenges each year that are ever more complex and nuanced to match their increasing levels of media savviness.

Another knock-on effect of students' increased access to tools is the potential for them to independently learn methods – on platforms such as YouTube – some of which we, as practitioner/educators might consider ill-advised. The onus then falls on us to convince them to unlearn those 'bad habits' and to adopt the methods that we understand to be more effective.

So this thing with students editing on their own computers is a two edged sword because it costs us less. But it means that that learning time in the edit suite is much more restricted. Mainly now, we're discussing rough cuts with students rather than confronting kind of more close-up problems like "I've reached this point, I don't know

how to cut my way out of it". And I think that's been a negative effect, that a lot of learning moments have been lost. And you're often having to tell students to undo something or change their approach to their rough cut, which involves more work for them. (SE-11, personal communication, December 2, 2022)

This same pattern occurs with cameras. Where once, the only way for film students to get their hands on a camera was to check one out from school, now many students own their own. For educators, this poses similar (but slightly different) opportunities and challenges. The opportunity exists to move quickly through some of the more basic technical concepts, although this advantage is often counterbalanced by deepening the skills and knowledge divide between those who can afford their own cameras and those who cannot. So, this opportunity comes with the built-in challenge to equilibrate the knowledge levels of a cohort that is both economically and technically uneven, as well as to provide valuable learning experiences to each member of a student body who, because of this, are at different skills levels.

Another challenge that often accompanies student camera ownership, as SE-11 points out, and which I, as a lecturer in Cinematography have also experienced, is to redirect the fascination some students have with resolution and other technical specifications into an understanding and appreciation for the role that a camera plays in storytelling. For it is story that is at the heart of all screen work.

A lot of students are more independent and more experienced camera operators when they come. This will be about two or three people per class of 20 have had their own cameras for a while and learned quite a lot. And that means that we've got more student cinematographers when they come to more advanced, more advanced projects. But I also think that the availability of online material and so on can cause a lot of confusion. And yeah, because they... some, some students get sort of mesmerized by resolution and colour depth and bit depth and things. And most of them know very little about lenses and screen language. Yes, our cinematography training is largely dedicated to going "look, lock these things in, keep the camera at this resolution and so on. And let's talk about how you actually tell the story with your camera". The other reason we do that is because that that hasn't changed as much. You know, that's a skill you can take on to the next... you know, it doesn't matter if you've got... your next camera has 12-bit processing, you still need to select your lens, don't you, and frame your picture. (SE-11, personal communication, December 2, 2022)

With the continual development of new filmmaking tools, in combination with the bounty of technical information for them available online, some of the creative elements of visual storytelling, such as the importance and use of the frame, can easily take a back seat to the seduction of the tools themselves.

And, you know, same thing, also with the cameras on phones and things like that. Yes, you're not operating on an Arri or, or, y'know, y'know, Sony FX-7 or something like that. But you are learning many of the aspects of framing and other tools along the way. (SE-12, personal communication, January 12, 2023)

Smartphones have had a growing role in screen education from undergraduate through to doctoral level (Cochrane et al., 2013; Wagner, 2013). Integrating smartphones into a programme that focuses primarily on conventional filmmaking methods brings with it the unavoidable issue of landscape vs. portrait framing, as screen educator SE-13 has found.

I just supervised a PhD, which was looking at the rise of, you know, narrow, what-do-you-call-it tall frames, as opposed to the traditional cinematic frame. And it's true, many of the students would choose a thing, you know, just because that's what their sort of selfie position is, etc. And, you know, the, the industry is quite resistant to that still, you know, and how does the industry accommodate these shifts itself? (SE-13, personal communication, January 14, 2023)

SE-13 teaches a documentary course using smartphones...

...but I'm still encouraging them to do landscape, because I'm teaching that within a, you know, the context of more traditional documentary practices. But they're almost more academic. I mean, it has a technical flow-through but they're almost more academic questions [portrait vs. landscape] than practice-based ones in a way. (SE-13, personal communication, January 14, 2023)

Indeed, there has been an ongoing discourse for a few years in smartphone cinema circles between Landscape mode, which mirrors conventional cinematic aspect ratios, and Portrait mode, a.k.a. Vertical Video (Ross & Glen, 2014).

However they are framed, smartphones have added a layer of tool access to the teaching and learning of screen skills.

It means I can teach something like this [documentary course], which is about 40 or 50 students, you know, getting them into groups of three, we have enough gear, because they're often using their own cameras, I mean their own phones. You know, we'll just have like little tripods and little audio systems and so forth. So, I mean, to some degree, it can expand teaching practices more readily, because they're not having to sort of check out gear from locker rooms, and so forth. So, in that way, I think, you know, it's quite positive, it is quite democratizing. (SE-13, personal communication, January 14, 2023)

The opportunity and challenge to the screen educator, then, is to develop curriculum that enables students to develop their individual voices as screen creators in order to both find creative fulfilment and also to distinguish themselves amongst a growing cohort of makers.

So, what that has meant is a lot of competition in that space. And to me that that speaks to a need of even better prepared, more creatively driven, more instructed and educated students because they need to have something to compete off of, they need a place, an incubator of sorts, to make their ideas and their... their abilities stronger, because there's just so many people out there also doing those types of work. (SE-12, personal communication, January 12, 2023)

4.1.1.4 Sub-theme 1d: There is More Competition, So Keep Up or Be Left Behind

The acceleration of both the creation and the delivery processes of screen content that has been prompted by economic efficiencies and facilitated by enabling technologies is occurring simultaneously with an influx of people entering the screen sector, all aspiring to build careers within it. For those who already have years of experience in screen and/or in screen education, this increased sense of competition presents itself in layers. The first layer is simply having to compete for the same jobs against a growing pool of skilled and available practitioners. Added to this is a layer of awareness that they will need to continually stay up to date with technology as it continues to evolve. This includes considerable time spent scanning relevant sources for information on new developments as well as proactively upskilling themselves in order to maintain currency in their craft. There is also the age layer, evidenced in overt ways, such as the increased pressure felt by the older participants to market themselves on social media; in subtle ways, such as the perceived need to demonstrate a sharpness that is on par with their much younger counterparts; and in covert ways, such the hard-to-pin-down factor of age-based

hiring discrimination. And another layer for some is the need to regularly pivot in response to shifting industry trends

As the director of a company that has transformed from a single-service offering into an outfit whose technically innovative screen-related products and services adapt to evolving industry needs, DMIP-4 sees pivoting as an essential survival skill.

So in the first two years of [my business], we were really a rental company. So I was, I was teaching people how to use equipment. But because the cost of equipment was becoming cheaper and cheaper, really, we just pivoted out of rental. [...] Then we moved into more specialized motion picture production. So things like 360 captures and post production of that. And then we mastered that, but within two years that became cheaper and easier. And so we had to pivot again. So it's for me, it's like every two years, I reinvent myself, it feels like. So we master something, we become really well known for it, it becomes a service. And then I just kind of have to pivot into something else. So my, my role is constantly looking at what is next. Because if we're not pivoting every two years, we'd be we'd be shrinking and be gone. [...] I'm just used to the constant change now, to be honest, like it used to worry me. But now we've done it for so long, I've realized that it's sustainable to constantly pivot, which is a weird space to be in, like, every two years, you're taking a big risk. But over 9-10 years, you get used to that being actually part of what you do. (DMIP-4, personal communication, September 2, 2022)

A similar approach to adaptability is reflected by these two camera assistants, who, whilst not feeling the need to reinvent themselves, do feel the constant pressure to stay current with evolving technology in order to keep their competitive edges in the marketplace.

I think the challenge is that you always have to try and get your hands on the newest camera (laughs) before anybody else. And then trying to figure it out, trying to get on...like, there were a lot of short films that you would just do it for free for the sake of getting to used that camera. [I was] definitely challenged in a way that I would know that I need to kind of be more on top of the game. (SG-16, personal communication, October 30, 2022)

The technology allows you to do things quicker and faster. And if you're not, if you're not going to adapt to the technology, then you won't be able to keep up to the pace that things are going. (SG-15, personal communication, June 24, 2022)

Some of the participants who have been in the industry for more than a decade have been prompted by the increasing competitive factors that they've seen approaching in their rear-view mirrors to reflect on their self-perceptions as practitioners. As observed with some of the respondents in the above sub-sections, there has been a mixture of excitement as they sensed an opportunity to refresh their technical/creative practice, fear of being left behind by accelerating change, and a weariness than can be detected in their voices, read between the lines of their interview responses, and sometimes stated overtly.

So, in a way, I think that probably the way that I lead my life has a lot to do with not having security. And the psychology of that, I would say, also isn't terribly healthy, as well, because I'm always like a cat on a hot tin roof. And I'm always kind of thinking, scanning the horizon for opportunities, I guess, like, like all freelancers do. [...] I mean, we're always, aren't we, we're encouraged to be nimble. I mean, unfortunately, I think when you're a freelancer, you can't be anything else. And in itself, that's actually exhausting. (Cinematographer FIV-3, personal communication, October 14, 2022)

SG-17 echoes this blend of acceptance and resignation with regard to the inherent precarity of the freelancer:

But one thing I did become comfortable with early on is just uncertainty; is not knowing if this is going to keep going or if it's going to be something else next week. (SG-17, personal communication, January 13, 2023)

SG-17's response to the competitive environment of screen work is to spread his revenue load across multiple streams of income. He is the sole participant in this study who runs a portfolio career in screen. In addition to his work as a "one-stop shop": producing, writing, shooting, and editing corporate communication pieces, he also works as a Cinematographer on small and medium budget productions, as well as working as a 1st Assistant Cameraperson on larger scale productions. Whilst diversifying his income sources mitigates against the risk that comes with depending on a single skill offering, thus allowing him to better weather the vagaries of a cyclical industry, the amount of ongoing outreach involved in maintaining a portfolio career comes with its share of stresses.

One thing I always like saying was I never really knew what I was doing next week because it it's so varied, the number of... the different types of work that I do. And jumping around so much changes your lifestyle.[...] Impostor syndrome's pretty real. Because, you know, you... people know that [...] you're a prolific creator, and you make a lot of stuff. So hey, can you go jump in here? It's like, I've... well now I'm producing a sports show. I don't I don't like sport. And I've never produced a show before, but someone believes in me or at least, like they didn't know anyone else. So you fake it till you make it. And you make it and like there's a lot of stress around that. And then I'll jump on a series or something. And you know, it's slug it out all day in the forest. And then later in the week, I'd be doing a night shift editing a TV show or whatever. So that... just not having... one thing people always point out is like, I don't have a schedule. I've never had a schedule. And I've never had that consistency of: every day, I get up at this time, and I have breakfast at this time or whatever. There's there's no such thing. Even my weekly appointments with like, physios and whatnot, change every week. The time is different. So my whole life is in an absolute turmoil. And I like it. (laughs) [...] It's, I mean, like, it's a little bit... it's born out of necessity a lot of the time because, you know, you do need to pay the bills and stuff. But I guess even even when there's lots of work on, I still do it. (SG-17, personal communication, January 13, 2023)

Writer/Producer/Screen Educator SE-10 is excited by the steady evolution of screen storytelling technologies and affordances but sees the enormity of the task required to remain competitive in an evolving landscape and feels almost ready to step back from it.

I think probably I think I think I'm happy to be sort of where I can see the end of my teaching career in view [...] I think if I were going to carry on teaching for another 10 years, I would have to really, really upskill myself in the digital media. Because I because the... as... I think as the screen industry progresses, and digital media progress, they're doing that. And gaming also is starting to do that. So the convergence of all of these things, which is incredibly exciting, and if I were a young person, I would be all over it, it's fantastic. It's fabulous. But I'm just at the point where I'm going, I'll give that a miss. (SE-10, personal communication, November 25, 2022)

Film industry veterans are competing for jobs against people who are newer to the industry. FIV-1, who has been a working Cinematographer for thirty years, reflects on the largely unspoken role that age plays in hiring decisions, adding that alongside craft skills and talent, social media skills are now an essential factor for employment in screen.

Yeah, there's a certain amount of ageism in the industry, in New Zealand, I think, especially if you're in the TV commercial field. I mean, there's, there's obviously, exceptions to it. But my personal experience is that you get to a certain point, and then suddenly you look around and all the young guns are being hired, you know, the 20 and 30 year olds are being hired on the job, because they're bringing a vision but also I think, just as importantly, is the social networking, you know, they are part of, of a scene of a crowd, you know, they bump into directors at bars downtown. When you get to a certain age and maybe move out of the city like I did, you're not networking nearly as much as that. And it does have an effect on your career. And I've never been that good at social networking. To my detriment, really. So it's something even at this age that I really need to still work on to ensure that I keep up with. (FIV-1, personal communication, June 28, 2022)

The responsibility for attracting employment opportunities through the management of one's social media brand has recently become part of the required skill set for cinematographers of all ages, adding a new layer of complexity to an increasingly competitive field.

4.1.2 Theme 2: Blurring Lines, Changing Values, Evolving Needs, Shifting Roles

The core concept of this theme is the shifting landscape in which people are endeavouring to grow and/or maintain creative careers. Participants' experiences range from existential anxiety to optimism for the potentials inherent in change as they deal, each in their own way, with an industry in the midst of redefining itself. Participants in this study are aware that some doors are opening and other doors are closing. Many of the ideas explored in this theme relate to the participants' experiences of their specialist roles mutating, expanding, contracting, being re-envisioned, or becoming obsolete. The emergence of the user-maker (Aktaş, 2018) which has given rise to the burgeoning of short-form content in festivals and on social media (Çöl & BiRol, 2023; Herald, 2023; Manovich, 2024; Yang & Xu, 2024) combined with the glut of longer-form programme options available on streaming platforms, are having knock-on effects for both screen practitioners and screen educators. Participants also discuss how secondary issues such as the rise of impatience amongst students, screen practitioners and audiences alike; and a drift away from the artistry of cinematic storytelling and towards the more functional notion of content creation; are shaping the experience of supporting screen practice.

What follows are excerpts from the participant interviews, organised around the following sub-themes:

Both How Things Are Done and Who Does Them Are Changing

It's Become Less About Craft and More About Business

Evolving Audiences, Evolving Screen Education

4.1.2.1 Sub-theme: 2a - Both How Things Are Done and Who Does Them Are Changing

The growth of screen as an economic force has brought greater awareness of the sector along with greater inclusion of screen in local economic development strategies. SIS-9, who oversees the fostering of growth and development opportunities for the Auckland screen sector, has experienced a broadening of the definition of screen as work expands into newer territories.

The conversation used to be around a quite siloed screen industry. And it's important for Auckland, for this reason, now we're talking about broader Creative Industries, because the skills of screen flow into the likes of gaming or immersive technologies. And in my job, I have to convince my board, councillors, politicians to continue to invest in the sector. So the conversation is slightly different... is slightly different to a few years ago. (SIS-9, personal communication, October 21, 2022)

As a director, exhibitor, and festival founder, who also, incidentally, sits on the board of a major funding body for film in New Zealand, SIS-8 is not quite sure yet what to make of the convergence of forms occurring in screen.

I feel like I was...I'm really happy that, you know, I was a kid who was born when I was, that I grew up through, I think like the best time... felt like one of the greatest periods of cinema, in the 70s, and then have witnessed this whole massive sea change in terms of like, everything from top to bottom. I just don't know if it's, if it's going to...(chuckles) if there's good news ahead or not, but I feel, I feel really content that I had sort of been witness to, to, yeah, the whole, the whole rise and change of the entire industry. I'm not that excited about where things are gonna go, the whole idea of, of the next levels and that visual language and film language changing completely, the blurry lines between what we now know as... you know, there was hard lines before in terms of where there was television, cinema. And now the streaming, it's kind of like, just, it's very blurry across the board for me, and it's not as interesting. (SIS-8, personal communication, September 9, 2022)

Writer, producer, educator SE-10 is watching with interest the convergence of two forms in which she has both professional and teaching experience. She speculates that the introduction

of lighter cameras and stabilisation rigs has been one enabling factor to the blending of style between these two forms.

Documentary and drama have converged in that drama is now shot much more using documentary techniques, and documentary uses dramatization much more. In the old days, in the old days, documentaries, you would hardly ever, if ever, see something dramatized within a documentary, because the principles of documentary are that you don't make stuff up. Now, you know, I can't think of a documentary I've watched now that doesn't have dramatization, or, you know, reconstruction in it. And that's bringing drama into documentary. And in terms of dramas, partly with lighter cameras, all those sorts of things, and the different rigs you can use now, with shooting cameras, they're much more mobile, and therefore much more able to shoot effectively in a style that documentary can shoot in. (SE-10, personal communication, November 25, 2022)

The rigs that SE-10 is referring to are relatively lightweight camera stabilisation systems, such as those made by DJI, Zhiyun, and other manufacturers, generically referred to as “gimbals” (because they use gimbal pivoted support systems which allow an object to maintain its horizontal and vertical axis even when rotated, similar to a mariner’s compass which stays level when the boat or ship it’s on is pitching and rolling around). As a cinematographer, SG-17 experiences gimbals as a game changer.

With like gripping equipment, with movement, gimbals, when they came in, they were pretty revolutionary. It took a while for people to... gimbals kind of came in in stages and generations. Because originally, you know, it was always the Steadicam was kind of like the Mecca...whatever...and then the Glidecam came out and it was kind of shit. And other than that, you'd use a dolly, you know. And then sliders came in because cameras got lighter. And so sliders became a lot more popular, because you could do a small dolly move so you can get that nice cinematic feel without actually putting too much more effort in. It was when the DJI Ronin came out was where we saw the biggest change because I could put my DSLR on it. I could have a microphone on top or a radio receiver on top and I can do an interview on the gimbal and we can walk around and I can shoot them like that. [...] They're only getting better and better, and you can do your own focus and everything from holding it. So it gets rid of another person, right. (SG-17, personal communication, January 13, 2023)

As SG-17 mentions, some gimbals which offer controls that enable the camera operator to pull focus themselves as they are operating hold a potential threat to the job of the focus puller (the

1st Assistant Camera), whose responsibility it is (among other things) to continually adjust the focus setting on the camera's lens to keep the desired subject in focus as the camera and the subject move around.

Another possible threat to film jobs looming on the horizon comes from AI. Whilst there has been speculation around how AI might affect screen workers (Gershon, 2023; Vermeulen & Psenner, 2022) , as of this writing (late 2024), there is still a lack of clarity on exactly which jobs could be impacted and how. This uncertainty in and of itself adds a layer of stress to the 'normal' layer of precarity inherent in the freelance lifestyle. 1st Assistant Camera person SG-15, who is enjoying a busy career working on one successful television series after another, is aware of AI's approach toward the film set, and he balances that fear with hope for the possibility that the existential peril that many dread might actually end up being a boon to jobs.

I think that [...] you will see AI start coming into film. And I'm not sure in what manner, But it definitely will. [...]. I don't think it's going to... will totally change the way that we film. Y'know?

Q: How do you feel about that?

I don't know. I mean, I like change I like, you know, like, knowing that new stuff, and it's, you know, it's like, you know, some bit of you does worry about, you know, but you know, you adapt, that's just what we do, you know

Q: Some bit of you worries about what?

Just like, you know, not, not having any work or things just becoming...getting out of my depth. But I just... it's very, it's a very far thought. I'm not too worried about it, and I kind of ... it'll be interesting to see, I mean, I'm kind of intrigued to see where it goes, you know, and what people think up. Yeah, and like, there's, there's sort of like, the introduction of digital, everyone thought that things were gonna get, like, production would be a lot smaller, and then they'd get a shoot, you know, but things have gotten bigger. You know, we've spent, there's more money spent in film now than ever. (SG-15, personal communication, June 24, 2022)

Whilst not specifically focused on AI, Boom Operator SG-19 also fears a trend toward minimisation, or even obsolescence, of his job, driven by economic efficiencies.

I probably think that there'll be no need for a boom operator. You know, the way things are moving everything's... The technology with small mics, you know, things are getting even smaller. And then, you know, no doubt the military's working on something, and then that'll filter down into the film industry anyway, whether it be...

Well, I heard, you know, things about actors getting implants, you know, chips and stuff like that, if they're serious about their craft, and that just means that everything's being recorded. And then like, you know, wherever they go, they'll be in focus, and that sort of jazz, you know, it's all whispers in the wind, but, I mean, cell phones were whispers in the wind at some point in time, you know. So I can, you know, there's someone out there that's probably going to develop that technology. So I'd say there's probably Yeah, it's... everything's looking to be more automated. And just... just easier for... for the, for the final product, rather than, you know, the filmmaking itself.

Q: How do you plan to adapt to that?

Ah, I reckon by that time, I'll be already out (laughs). No, um, adapting to THAT... I mean, there's there's no adapting to not having a job. So it'll be at a change in path. Yeah. I'd say it'll still be in the film industry because that's pretty much all I know. But if not, you know, directly in the film industry it'll be in some way. Yeah. (SG-19, personal communication, December 14, 2022)

When actors deliver their lines on set, they are mic'd by the Boom Operator and recorded by the Sound Recordist. Often these sound recordings contain unavoidable extraneous sounds, reverberance from an echoey room, or unwanted noise from wind or traffic. The traditional method for solving these issues involve the actor re-recording their lines in a recording studio once the scenes have been edited. This is known as Automated Dialogue Replacement (ADR). Post-production sound technician SG-18, who engineers ADR sessions, among other things, sees recent major advancements in on-set noise reduction technology diminishing the frequency of ADR sessions.

In terms of technology, it is going to get to a point where I think there may be less ADR time needed on productions, because of the... how good noise reduction is getting. But that's really a good thing for everybody, I think. It's a good thing for the actor, they don't want to come and do it again; they don't have to. They, y'know, the Production... Production don't want to pay for it.(SG-18, personal communication, December 29, 2022)

While SG-18 is displaying an admirable regard for the economic concerns of the production department, what he has not said is that advancement in noise reduction technology is also resulting in fewer billable hours for him and other Post-sound engineers.

Other technological developments are reshaping specific activities involved in performing various crew roles and are redefining on-set dynamics amongst crew members. For example,

previously, the 1st AC (focus puller) needed to be right next to the camera in order to adjust focus, which they did manually by means of a mechanical gear assembly attached to the lens. Today, focus is adjusted remotely. Using a wireless monitor with a special display indicating what the lens is focused on, the 1st AC employs a wireless controller to keep the appropriate subject in focus. This enables them to place themselves physically away from the camera. Cinematographer FIV-2, who's been shooting for thirty years, laments the effect this technological improvement has had on the camera crew dynamic.

My relationship with the focus puller has changed because they,... and that's that sort of indirect in a way because now they're all sort of remote. So now, you know, they're not on the camera anymore. They've got their monitor and remote focus. And so they... I don't have that close relationship with a focus puller that I used to have, which is a shame. (FIV-2, personal communication, September 15, 2022)

Focus puller SG-15, who's been a camera assistant for nine years, sees the modern focus pulling method as part of a larger positive change in on-set dynamics.

I came from, I sort of started right at the end of the era of where people used to not use monitors to focus pull. And whereas now it's heavily monitor orientated, you wouldn't... And because of that, it means that the on-set sort of etiquettes change, actors don't hit their marks as much, it's a bit more fluid, which I think it's almost better. Because it's not, you're not as . . . you don't have to stop the shot, because someone's missed their mark, or because they've gone to a different spot that makes no sense, you can kind of you sort of encompass that a little bit. [...] And the other one is, I think attitude like, Assistant attitudes have changed, because it's come from I think, like there's, there's sort of been this it's been like a military styled operation. Whereas now we're sort of like leaning, it's a bit more a bit more fluid. And I think the people that were associated with that sort of change, you get get a lot more. I think people become a little bit more relaxed, it's not as stressful. (SG-15, personal communication, June 24, 2022)

Boom Operator for the past seventeen years, SG-19 also feels a broader transformation towards more openness in set environments.

So like, nowadays, it's all about imparting your knowledge...in a better way, you know. It's not, it's not so much bullying [...] especially with like, yeah, just the way everyone talks to each other and treats each other. I mean, sometimes things get heated, and that's, you know, that's in all aspects of life. But in the film industry, it used to be, you know,

"Do this, do it now, don't ask questions", you know, "don't ask me why. Don't ask me why I said, Go and get me some, you know, Glad Wrap, just do it". But nowadays, it's like, "hey, what we should do is, if we get some Glad Wrap, we can do this, do that". And it's like... then, you know, people are just like, (singsongy) "Oh, yeah", y'know, more willing to, to do what needs to be done. So yeah, there's a lot less bullying, which is a, y'know, a great thing. (SG-19, personal communication, December 14, 2022)

In addition to the noticeable decrease in bullying all around, participants experience more care being taken for the social environment of the set, as SG-17 articulates.

Both physical and mental health are definitely approached differently now. There's a lot more awareness. There's a lot more.... There's a lot more care and people take it seriously. At least the people I work with. I did work with a lot of - can I swear? (laughs) - I did work with a lot of assholes, like I really did. [...] But the people I've worked with now, I think, they're definitely a lot more open, a lot more kind, a lot more caring. And that's a standard, it's expected. I've walked off jobs because they weren't at that level of care of... for you as a human. And I had the full support of the crew for that. Whereas I think if I'd done that 10 years ago, I would have been scoffed at because it's like, "this is the industry, it's hard work, and you suck it up". And I don't think you need to suck it up these days, nearly as much as you used to. I've heard stories of workplaces that I used to be in. And when I was there, they were horrendous, they're really, really awful. And I told people to, like avoid it like the plague. But now they're great. They have a great culture. So I would say that that's a change. (SG-17, personal communication, January 13, 2023)

Another movement toward more mindful practice is the inclusion of tikanga (Māori protocols) on film sets, as SG-19, who is Māori, discusses.

Most jobs that I have been on, they have at least started to acknowledge, y'know, Māori tikanga. And I think that's, it's just a part of the world that we're in today. You know, a lot of people are... before you start anything, before they do anything, they're acknowledging the, the original people of whatever land you're on, y'know, whether it be in Tauranga or Nelson or Sydney. [...] And, yeah, they're definitely more open to tikanga Māori and Māori protocols and things like that on set. [...] Like, oh, yeah, even things as small as sitting on the table. Y'know, and, y'know, when you're, when you're a filmmaker, you get yourself in some really, really weird positions, y'know, because sometimes the set is really tiny, and, but they will always, y'know, most, most filmmakers will check. Y'know, sometimes I have to stand on a table and that in terms

of Maoritanga, in terms of tikanga, that's a definite no-no, but you know, you, you have to sort of give and take, it's not all about, y'know, I can't just be... I can't just not do the job, y'know, because otherwise someone else is going to come in and do that job. (SG-19, personal communication, December 14, 2022)

For productions comprised principally of non-Māori personnel, sensitivity to tikanga extends to screen content. Here, SG-19 describes the greater attention now given to dialogue in Te Reo (Māori language).

So for Māoridom, you have tikanga advisors, or Reo advisors. If you have, you know, it's a Reo dialogue, making sure that everything's done properly, because used to be, you know, they'd just Google Translate and let them say it, and then people will be like, 'what the f-, what are you doing, who authorized this?', and no one did. But now you have that person who can authorize it. And it's the right people that can authorize it, not just, you know, the gaffer, who... or the, you know, the, the lighting assistie's, Māori, 'hey, can we do this?' 'uh yup'. Now, it's someone who's, who's qualified. (SG-19, personal communication, December 14, 2022)

Along with tikanga advisors, productions are expanding their rosters to include other positions charged with ensuring respectful and safe practices. One example is the relatively recent incorporation of the Intimacy Coordinator role in scenes where physical closeness is required between actors (Sørensen, 2022). Whilst there have been some progressive shifts in philosophical approaches to the screen creation process, there is still much room for growth in many areas, including for the presence of women in all roles.

When I started out in the 1980s, [opportunities] certainly weren't there for women. And I was one of the you know, one of the early women producers of feature films and things like that. And now there's heaps, and there was never... there was about one female camera woman, no female sound, there was no grips or gaffers, the people who do lighting and lay tracks, and all those sorts of things. You know, there just weren't any. And now there's been a very, very solid push in the last five or six years, particularly with directors also to enable women to have opportunities, that's changed enormously.

Q: Has it changed enough?

Nope. (SE-10, personal communication, November 25, 2022)

Over her forty years in camera, cinematographer FIV-3 also has experienced a gradual shift away from bloke culture in screen.

I know when I started, there was one other woman who was [a prominent director]'s girlfriend at the time. And um, I don't think I ever met her, but I knew of her, but she was also a camera assistant. And then she left the industry and became a fire fighter or whatever. So she was gone. And then there was just me for a long time. But but then [...] there were other women, camera assistants. [...] And so on the face of it, it felt healthy. But then privately, you talk to these women and I remember a German focus puller who was just leaving the country because she had her guts full of how she was being treated. And she put it down, actually, to our toxic sporting culture... of our sort of male rugby teams, and how that kind of... when you got a number of men together in a room, they might behave a bit like that. I certainly remember quite often being the only woman on set, and there'd be pornography being passed around and whatnot, as if you weren't there, or you're expected to "hahaha". And you're really thinking Sick fucks, you know, what are they doing? You know, it's tragic, it's sad, because they're lonely, lonely men, but um, yeah, it's changed, it's changed.

Q: Is it changing fast enough?

It's slow. In fact,... and... but recently, there was a meeting, there was a meeting of women in camera. And some women were saying it's got worse. Now, I...(laughs) I'm thinking to myself, you know, their memories don't go back far enough. Or they weren't around to know how bad it really was. I think the change has been incremental. And I think now, woman in camera has been... is more normal. But it's still not normal, but it's more normal. (FIV-3, personal communication, October 14, 2022)

SG-16 has been in the screen workforce for a decade, serving primarily as a 1st AC while building her career as a cinematographer. Whilst FIV-3 (above) describes the incremental changes she's experienced over forty years, it is interesting to note that SG-16's recounting of her experience of change over the past decade describes a similar trajectory.

Yes, there weren't a lot of women back then. And so I think it was a lot harder. In that, around that time, I felt more like the camera department was more of a blokes' department, actually film in general, but more of the technical departments like lighting and grips, even sound, those departments, and camera were more like a blokes' department and and so yeah, and I really didn't feel like I fit into this department at that time. And over the years, I feel there has been a lot more woman coming into this industry in these departments. I don't know if it's because... I guess there are many

reasons. After being in this department for so long, I actually feel that it's not that hard whether you're a woman or a man, as long as you kind of enjoy, there's a lot of women who also enjoyed, like the technical side of things, you know, a bit of machinery and stuff. I know, in this job that I'm on, I've met one woman grip as well, which is amazing. And so that way, there's a lot more acceptance now. Like, whether what no matter what gender, it's more about, like getting the... you're able to get the job done. And, and people have a more openness to that. (SG-16, personal communication, October 30, 2022)

Whilst Producer/Writer/Educator SE-10 has experienced a variety of culture shifts as well as transformations in screen creation tools and methods, she points out that little has changed with the core of the cinematic storytelling process.

It's a different discipline now, you know, some discipline has been lost, different disciplines have come in. [...] We live in a different world now, and, and trying to pretend we don't, we'd be crazy, I don't think anyone's doing that anymore. But different disciplines apply. I mean, there's still real... a lot of the processes are still the same. When you go out and look at a location to reconnoitre it, to do a location recce, to see if you're going to be able to shoot there, you still have to look at where the sun's going to be, you still have to look at what the health and safety issues are, you still have to figure out where you can put the crew, you know, to have lunch. And I mean, you know, really basic fundamental stuff hasn't changed at all. The speed with which we work, the quality of what we can capture for the amount of money is what has changed. (SE-10, personal communication, November 25, 2022)

The ability to shoot more in less time is partially enabled by the elimination of the photochemical process required when shooting on film. This has shifted the experience of production for a people in a number of screen roles.

I don't miss film. [...] When we were shooting on film, we had to send the rushes, you know, the footage we shoot, we had to send that to either to Australia or Wellington to get developed. So we couldn't see what we were shooting immediately. So it's a whole different mindset for everybody, all the technical people as well as the director and the producer and everybody else, of being able to visualize what you're capturing... the end result of what you're capturing, because you couldn't actually see it until it came back from being developed, which was generally the next day. And you'd sit down the next evening and everybody would sit down - everybody: producer, director, editor, DOP - would sit down together, soundie... would sit down together and watch the rushes at the

end of the following day. And that was the first time you could see if what you'd captured was what you wanted. If there are any errors in anything, you know if the hair got into the camera or something like that, and was... what there was, so there was something in the film that you couldn't use, you wouldn't know that till the next day. Whereas now you're on on set, you're watching a monitor on set, capturing it in real time. And you know what you've got in real time. And it's both better and worse. (SE-10, personal communication, November 25, 2022)

One way it can be seen as “better”, for cinematographer FIV-2, is the immediate feedback afforded by the digital workflow, which removes some of the uncertainty he had experienced with shooting film, particularly around issues of exposure. He feels that the shortened feedback loop allows him to make bolder choices.

You take a few risks as a cameraman, I mean, you if you're shooting low light scenes and night scenes and things like that on film, there was always that slight anticipation of what, you know, you sometimes you weren't really sure that you got what you wanted. And it wasn't until you got your rushes back the day after or you know, 24 hours later that you're able to have that confirmed and relax. But with... obviously with digital cameras and the sort of quality that we're monitoring on set, you know, you can leave that shot and be very happy with it. So that gives you... the new technology gives me an ongoing confidence in what I'm doing. So there's there's sort of... I'm probably taking more risks than I used to. Because there's a sort of immediate feedback and the director and people on set say, Well, yeah, that's probably a bit dark. Can we just put a bit more light in there? Or, you know, well, that's a bit light, can we just darken it down? And there's no.... I mean, there's still a little bit of interpretation. But there's, there's a lot less compared to what there was on film. (FIV-2, personal communication, September 15, 2022)

From the vantage point of an educator, SE-10 sees the immediacy of visual feedback as representative of the loss of a level of craft and of a certain disciplined way of shooting both of which were characteristic of film acquisition. But as a former producer, she sees the huge saving of time and money that come with knowing immediately what's being shot.

Because it's much better to see what you're capturing as you go and not have to wait till the next day for it to come back. But what has been lost has been the intensity of craft, particularly for young people coming into the industry now the intensity of craft that that is imposed on you. When film, which was really expensive, when you have to be

very, very careful because the material you're using is so expensive...you can only afford, you can't afford to make mistakes and if you make mistakes, it costs real money like hundreds or thousands of dollars. When you're shooting digitally, you just keep shooting, you can keep shooting, you can keep shooting, you can keep shooting. So there isn't the same discipline on set. It's a different discipline, you know, it's no better no worse. A lot of old people like me would say it's worse, because we've experienced that lovely discipline of, of shooting on film. But actually, you know, you'd be crazy to want to go back to it, partly because the cameras are better now, you can capture stuff brilliantly now. And being able to see what you're capturing in real time saves you a lot of time and money. (SE-10, personal communication, November 25, 2022)

What is not mentioned here, however, is that whilst time and money are saved on set shooting digitally, the editorial department now needs to sift through many more hours of footage than they did when working with film. The huge increase in shot footage can result in editor-overwhelm, leading to them missing a magic moment because there's just too much to wade through. This mirrors the information overload that has descended upon much of the civilised world over the past few years. Nevertheless, SE-10's point about the attention to craft getting lost in the rush to generate content in the post-film era of screen creation serves to further illustrate that the "intensity of craft" is being rapidly subsumed by the immensity of cash in the mindsets of corporate screen executives.

4.1.2.2 Sub-theme: 2b – It's Become Less About Craft and More About Business

Whilst long-time cinematographer FIV-2 understands the ongoing march toward ever greater efficiency in screen production, that knowledge does not help to mitigate the slight feeling of heartbreak that can be sensed in his lamenting the loss of the creative conversations that were once an important part of the filmmaking process.

Humans are always looking for better and quicker ways of doing things. And I think that's that's partly what I don't like about working in the film industry now is that it's... it's I feel it's less crafted. [...] I do feel it's become more of a business. I feel that. Yeah, I mean, there's a sort of a, in my time, too, there's been a change in a more naturalistic way of telling a story. And, and, and both, you know, both from a storytelling perspective, but also from a visual perspective. And, and so people are more happy with just in some ways, you know, finding a nice frame but sort of just pointing a camera at an actor, rather than... there's less, I feel there's less impetus for a longer talking-and-ideas period before we go out on a shoot than I used to. [...] I think that there's a sort

of an art that's been lost a little bit with our naturalistic filmmaking and storytelling, and in some ways, electronic cameras have allowed that because you can, you know, you can just put a camera, whether it's an Arriflex, or a tiny little Sony on a tripod and point it at someone and it looks good. [...] I do miss the discussions. And I've missed the experimentation, I suppose, on set of looking for different ways of visually telling a story, rather than just finding a nice naturalistic train. And I think, you know, there's nothing wrong with our, our naturalistic way of telling stories these days. And there's some beautiful images, but [...] I think directors are either less knowledgeable about that these days, or just, you know, I don't know whether it's the timeframe, sometimes it is the time, we don't have the time. When you got to shoot something in five weeks, instead of 10 weeks, you got to come up, more often than not, with the simplest way of covering something. (FIV-2, personal communication, September 15, 2022)

Despite the term “naturalistic” having once been employed to describe an anti-commercial approach to filmmaking that eschews the highly resourced look of movies created out of the Hollywood studio system, today, the term is more commonly invoked as a code-word for “faster and with less effort”.

Screen educators, such as SE-12 and SE-14, are also experiencing the corporatisation of both screen and of education. They note the increase in focus - by educational governance as well as by governmental policymakers – on supplying workers for the Creative Industries, with “industry” much more front and centre than “creative” in strategic discussions. (Fox, 2019).

I believe that there will be a, temporarily, we're kind of maybe in a slight, mini, mini-mini dark age of a shift towards, like I said that real employer-centric kind of approach. I don't think that'll last very long, I don't think that'll last more than a decade. I don't think the upcoming generations will tolerate it, to be honest. (SE-12, personal communication, January 12, 2023)

I think I would really like to see what comes out of ROVE, you know, and the the... research that is going on at the moment. I would... It would be a shame, at one level, if everything was just about, you know, button pushing. I think it is very important to have education in things that make films happen. [...] But I also think it's important to see how many films get made in New Zealand, how much content... like this relationship between where it is that our students are going with... so how many content creators are we developing at university, versus how many people who are servicing content. There is a difference. And I'm not saying one is better than the other. It's not

about hierarchy of what's better, but it's about a balance, so that you always have local IP generation, I think that's really important. You know, if we become a service industry to U.S. IP, and we are only that, then that's a problem. (SE-14, personal communication, January 27, 2023)

SE-14 is referring here to the Reform of Vocational Education (ROVE), the government initiative begun in 2019 to establish a unified vocational training system in New Zealand by overhauling the sixteen Institutes of Technology and Polytechnics (ITP's) and bringing them all under one roof into a single entity, named Te Pūkenga. The development of Te Pūkenga had been in the planning phase for four years, when New Zealand voters elected a new government who oppose this consolidation, and who promised in their campaign to dismantle. As of this writing (Nov.2024), Te Pukenga is indeed in the process of being disestablished. Vocational training will revert back to regional governance and the government has signalled that there will be fewer than the sixteen ITPs that there were at the beginning of the process. The current plan is to replace them with between eight and ten institutions, a decision that has caused much anxiety amongst academic and administrative staff.

Precarity is no longer a phenomenon that is unique to freelance work. Throughout this entire process, beginning in 2019, there have been steady and substantial cost cuts in vocational training across the board. As an educator in the ITP sector, seven years of which was also spent in programme leadership, I've seen my operating budgets steadily shrink year upon year since 2017, most steeply since 2020, which has made it increasingly challenging to resource the provision of quality learning experiences for our students.

Meanwhile, the University sector is also feeling the pinch. Both sectors have significantly reduced their administrative staffs, leaving the burden to default to the lecturers, compromising both their teaching and their morale.

When there's more and more admin pressures on academic staff, you have less and less discretionary time to give students and, and this is me personally. So I know that there are many things I would do. I would have these amazing screenings of student work when I would invite industry people. I don't do that anymore. Why? Because I had support, where I would design the invitation and give a list to somebody, and they would actually do all the inviting. That person doesn't exist anymore at university. [...] I used to be able to bring incredible guests. And now if I were to bring a guest just sorting their parking takes me six months. Because I have to physically - doesn't take

me six months, but basically that's how I feel - because I have to physically go to a building. I can't do it by email. They can't send it by the post. I have to physically go to a building with the car registration of that person. Right. I used to be able to pay people \$250 to come and do a guest lecture, that's gone. Then for a while I used to be able to pay them with wine. Well, that's gone. So despite, you know, despite the fact that we still care a lot, institutionally, I find it really, really altered or like drastically altered if I was to do a kind of how was it 15 years ago? Forget 25 years ago. But how was it 15 years ago? Right. So in that sense, for my personal self, this has actually been... the last few years have been really demoralizing in terms of teaching. (SE-14, personal communication, January 27, 2023)

4.1.2.3 Sub-theme: 2c – Evolving Audiences, Evolving Screen Education

This sub-theme is about the evolution of values and expectations – which inform practices – amongst modern audiences and current students, and how screen education is adapting to keep up with these changing values, expectations and practices. The link between audiences and screen education resides in their commonality as engaged stakeholder communities.

4.1.2.3.1 Evolving Audiences

A discussion about the evolution of audiences today would be incomplete without the perspective of these audiences as also makers. With the emergence of participatory media (Montero Sánchez, 2021), and its development into the phenomenon that media scholar Henry Jenkins et al. refer to as “spreadable media” (Jenkins et al., 2013), distinctions between audience and creator have blurred in many ways. Online platforms have given rise to the “user-maker” (Sanders, 2015), a concept that acknowledges the transformation and empowerment of millions of people from mere spectators into engaged participants who are both creating and consuming media content. Slightly more recently, the global infusion of smartphones has brought internet access to millions who do not own connected computers, enabling social media to have permeated the cultural fabric. The iPhone is now seventeen years old (Verstraete, 2014), and a generation of media users (double entendre intended) have grown up with constant media input, endlessly scrolling to the next item as soon as their attentions wane.

There is little doubt that spreadable, scrollable media has had a profound effect on the attention and expectations of screen content for all audiences, most profoundly those under thirty (Firth et al., 2019).

Producer/Writer/Educator SE-10 relays the necessity to stay current with evolving audiences.

I've absolutely had to keep up with the different tastes of audiences. Because if you're not keeping up with that, you're making something that's not necessarily going to hit the market. So I've had to keep very up to date with the market. [...] particularly in screenwriting, [...] the pace at which audiences understand story and expect story to be told has sped up enormously.

Q: Do you think audiences are getting more impatient as well?

Oh yeah (SE-10, personal communication, November 25, 2022)

Short form narrative has opened a new frontier in the exploration of dramatic forms (Manovich, 2024) and has created an environment for new visual languages to develop, as SG-17, in his role as a creative filmmaker, attests:

TikTok is a good example. Because people are actually really delving into the abilities of their phones, the tools of their phones. And originally, a lot of the stuff in phones were built to kind of mimic cinematography, in a way very haphazardly and you know, mislabelled or whatever, but they're there. And then the technology kind of changed to be like, Hey, we can actually do these features. For example, we can blur the background to make it look like you've got a shallow depth of field. So people use that as a storytelling technique. So you can use your blurred background as a plot point, as opposed to just an effect. So it starts to add to our language as filmmakers, and there is so much content being generated on these platforms, and they're all so short that each one is.. it's one gimmick, it's one new style, it's one new interpretation of a technique that everyone's general language and understanding of these techniques and how you use them to make a point is growing. And that is I think that's really cool. You know, the more voices, the better. Because I watch some of the TikToks and I'm like 'that...those techniques that they're using are advanced', and seeing how creative people can be by taking something you know, like, like, say, the Hitchcock zoom, or the Contra zoom or whatever. And just using it in a new way. But right across the board, all these different techniques and doing stuff that cameras can't even do now, but phones can is... Yeah, with being able to do it so quickly too. And in terms of like animation, being able to turn yourself into a GIF and put that back into the image and draw on it and draw on it in virtual space but use that not just doing that for fun but using that to tell a story in a new form. That's what I get really excited about is whenever we get a new form of storytelling. (SG-17, personal communication, January 13, 2023)

Yet there is the potential for newer forms to shape younger audiences' engagement with legacy film form. Künüçen (2014) argues that the 'new film language' emerging through an

encroaching 'digital visuality' has "led to a change in the perception of the film language in cinema" (Künüçen, 2014). Director, film curator and founder of the film festival/competition discussed above, SIS-8 is guardedly cautious but still open to the possibilities that short form storytelling may offer to the screen landscape. His concern, though, is that the quality of screen storytelling overall could suffer with what he sees as a diminishing of the level of craft skill in screenwriting.

I feel like there's, you know, there's people who are absolutely satisfied and creatively challenged by making loopy Tiktoks. And I would, would be an old curmudgeon to, to just dismiss that as utter garbage, which is what I think it is (laughing). But it's also...you never know, which one of those ones making that endless stream of narcissist bullshit is going to come out with something incredible. And it can be the birth of something brilliant from that. [...] And in some respects, you do see those voices on Tik Tok and everything else, on those sort of new delivery systems. But it's kind of like there's a huge dose of narcissism, and the storytelling aspects of it have really shrunk down to being nanoparticles in it, and that's kind of, that's kind of disturbing. And I feel like it's changing, you can just see it changing, which has been great for [the film festival], because we're down to five-minute running times, and probably will keep going shorter, as everyone's attention spans get smaller and smaller. But I feel like in terms of like, people being able to tell... losing the ability to tell, long form, really engaging, long form storytelling is, is on the precipice of being sort of eroded to levels that we might not come back from. And then we do have those issues of writers. We aren't producing skilled writing craft, you know, at feature length level. We have some writers, but we don't have a huge pool, to be honest. And I know because I've seen what's out there. (SIS-8, personal communication, September 9, 2022)

As the creative language of screen stories evolves, so too do today's multi-tiered screen audiences, who now navigate a spectrum from ultra lo-fi and often adventurous and innovative mobile-based content to high budget international drama produced by the major streaming services. SE-10 points out that on one hand, there is a growing expectation amongst audiences for stories to unfold ever faster...

...but also audiences are used to seeing the best because we turn on our streaming service now. We get, you know, *The Crown* and heaps of stuff of that quality. [...] And so this, so the expectation is that everything is going to be that good. And I think it's kind of just the young people, like the really young people, like under 30 or so who are doing lots of stuff on social media, on YouTube, and that sort of thing, putting stuff out

there. They're having the time of their lives, because they're not hung up on quality. But when it comes to sitting down to watch a drama or something, people expect it all to be as good as *The Crown* and the money that costs (in high voice), we can't spend that sort of money in this country, it's very difficult. (SE-10, personal communication, November 25, 2022)

SE-10 goes on to acknowledge that it has become easier over the years for her to accept the wide variety of quality that is found across the board on screen.

I think it's easier for me now than it was maybe 10 years ago, I don't know why that is. I just feel like, maybe I'm just psychologically in a freer space now than I was 10 years ago. Or maybe I've just made the jump to the fact that there are a lot of things stylistically that I used to really hate that people did, newer younger filmmakers did, that I've now gone, but that's the way they think. So I've, I've got on board with the way younger people think, than I possibly was 10 years ago. And therefore, the way they use the camera, and therefore the way they cut their stories, and so on, they still do stuff that's really terrible. And yeah, and you know, I see stuff on the net every day that I think is awful. And I see stuff streaming that I think is awful. But on the other hand, I keep a close eye on the pace of of the cutting, you know, when I'm watching something, I'm watching how the camera is being used; I'm listening to what the lines are, or how the documentary is being structured; I'm looking at the structure all the time of documentary or drama. (SE-10, personal communication, November 25, 2022)

This educator's observational approach - the ability to detachedly study a phenomenon in an area one cares about, regardless of one's personal opinion of the content being studied - will become an increasingly important capability to inform the provision of agile screen curricula that maintains its connection to evolving student interests as well as its relevance to evolving industry practices.

4.1.2.3.2 Evolving Screen Education

The screen programmes taught into by the "SE" (Screen Educator) research participants in this study have shown responsiveness to their stakeholders by adapting in different ways to the changes in student and industry trends.

SE-14, a screenwriting lecturer, discusses her programme's relatively recent incorporation into its curriculum of newer dramatic platforms.

For the first ten years of this course, we only had people writing feature films for their pieces in writing. And then after that, we opened up to television, to episodic, because that's, you know, things started to shift in terms of what people were interested in pursuing, what is possible to pursue given online content. (SE-14, personal communication, January 27, 2023)

SE-13, a filmmaker who has taught a wide variety of film-related courses at the same institution as SE-14, has also experienced a shift in students' priorities for the development of their own strengths as screen practitioners.

I suppose one change is that students have gone away from a kind of auteur model of filmmaking into more a communication model of content production, that, you know, they can readily do both. And so I think part of the problem with [some university screen programmes is that they are] still taking that auteur route, whereas for a lot of young people, they, they might fancy themselves as auteurs but, you know, they're very comfortable online. So that's sort of going to be the world that they live in. (SE-13, personal communication, January 14, 2023)

SE-11 - a lecturer in cinematography, sound, editing, and directing at a second institution - describes his programme's move away from an earlier single focus on television skills toward more general areas of screen language and techniques.

In the 90s, this course was developed as a television major. And it was very tied to a television way of thinking. It was tied to TVNZ, and Sky and TV3. And that was the main... they were the main employers. And in 2015, we recognized that all of that had completely changed. So, we kind of caught up with things that had been evolving in the course anyway. Changed the name of it to Screen Production, and kind of articulated that we were no longer teaching for television and hadn't been for a little while. We were teaching screen language, screen production techniques. [...] And so we, rather than chasing a particular corner of the industry, we've tried to focus still on being relatively... reasonably generalist. When we started, the stated aim was to produce... was to turn out people who could aim to be producers and directors. And I think that's widened a little bit, as we've seen where students go, so writing has become a bigger and bigger component of the course. Because again, we think you can take writing forward no matter what happens, and you, you know, as you develop your skill, you can adapt to these different media. And cinematography's become more advanced in what we teach, especially in third year...mainly because the equipment's easier to get,

but also, because that's where students want to go. (SE-11, personal communication, December 2, 2022)

SE-10 - a lecturer in screenwriting and screen production in the same programme as SE-11 – sees the overall transformation of their programme as having shifted into more of a facilitation of the students' creativity.

We've revised the whole undergrad course twice, since I've been there. [...] Our overall philosophy has shifted quite substantially towards a much more freeform and creative way of making projects. So that if you compare what the students produce now in year three, to build what they produced 10 years ago, I would say that the creative level and the depth of creativity is much more expressed than it was then. (SE-10, personal communication, November 25, 2022)

Alongside screen education's remit to impart and develop specialist technical and operational skills, there is a growing emphasis on coaching students to locate their creative cores as makers. SE-12, a filmmaker, screen educator, and now a programme leader at a third institution, is also seeing the focus within his film programme move toward enabling students to develop themselves as creative practitioners.

Yeah, I think we've seen a shift towards accelerating through the basics of the technology much quicker; expecting the students to do some self-directed learning or come in with knowledge so that when we are in the classroom, we're working on techniques, not technologies. [...] And I think that's an important space for film school now to work towards. I think, for a long time, that very first year of film school at a lot of places ended up being technologies before techniques. And, and maybe a little bit of creative stuff gets woven in along the way, but we, I think we kind of saw this a bit with [our] programme, when when I started that we wanted to move it much more towards getting the students in that first year having creative input and flexing and and experience of techniques and getting to work alongside other year students in a tuakana-teina model so that they could be seeing the techniques being expressed rather than here's where you click, this is, y'know... There's always going to be a little of 'This is how you set up the camera', but get the students through that stuff so that they can, y'know, and ideally, maybe in a flipped classroom kind of way, get them to do some of that learning in their own time, so that the time with you is maximized as the lecturer and made more valuable. (SE-12, personal communication, January 12, 2023)

As the cycle of evolving technology continues to usher in new tools and render others obsolete, the one constant that will remain with the practitioner throughout their career is their creative core (although it, too, will continue to evolve, hopefully). This is the wellspring of inspiration that fuels their practice and the inner foundation that informs and supports it. It is what SE-11 refers to as their “creative and artistic approach” that will stay with them through the vagaries of industry trends.

So, I think that... I think that the emphasis on writing, the emphasis on creative relationships and the emphasis on a kind of artistic approach if you like, a creative and artistic approach, they are going to carry on and transcend the technologies. (SE-11, personal communication, December 2, 2022)

In this context, it could be that one important responsibility of screen programmes today is to help students find the right balance between creativity and technology, an idea that SE-10 explores.

As a screenwriter and a producer, what I have kept up to speed with is how the tools affect how the speed at which people can work, and what they're capable of doing with those tools. And what I can ask them to do with those tools. And, and therefore, the different ways that creativity is expressed. (SE-10, personal communication, November 25, 2022)

4.1.2.3.3 Educators Adapting to Newer Value Sets

As discussed above, advancements in screen tech have opened up new possibilities for creative expression and have given rise to new screen creation methods, many of which make processes much easier to accomplish than they were in the film days. However, as also explored above, sacrifices have been made in exchange for these advancements. Among these is the reduction of considered on-set preparation that was once required before material was filmed. Cinematographer FIV-2 discussed the erosion of his ability to carefully design each shot now that lighter equipment and more light-sensitive cameras enable producers to require the image capture process to occur so much more quickly than before. Producer/Writer/Educator SE-10 spoke about the intensity of craft and of creative discipline that have fallen away, including the care that was necessarily put into rehearsal prior to rolling film. One way in which the reduction in pre-shot preparation time is connected to the switch from film to digital acquisition relates back to the fact that since film is expensive, it was essential that all elements on set were fully ready and in their best state before committing a scene to film. This driver is no longer present

in the digital world, and the impact of this change is seen today in screen students' approach to the shooting process. As cinematography lecturer SE-11 explains, what's missing now is the sense of scarcity that once accompanied shooting on film.

So I grew up in what I would think of as the era of scarcity [...], you push the button, you're spending money. So, you know, we... sometimes we would shoot things with a three to one ratio, you know, we would be really spare about what we were doing. And when I shifted to analogue tape production, when I was the media producer at [a local polytech], I carried on with that, because, in a strictly linear way, you don't want to wade through hours of tape. [...] So you... you didn't want... you know, I really learned a very spare, kind of shooting style. And I've had to lose that a bit. [...] But the main adaptation I've had to make us to realize that students have never experienced that scarcity, that media for them is an unlimited thing. You know, it runs out, you just put another card in, and the standard load that we send them out with, even beginning of the major, is 172 minutes or something so they're never going to run out of it. It's a big, that is a big shift. (SE-11, personal communication, December 2, 2022)

The result is an overwhelming abundance of footage that the students must then review in search of the 'perfect' moments to include in their film. SE-11 explains that in order to review the raw, uncut footage that had been shot on film (in New Zealand, called "rushes"; in the US, called "dailies"), one would have to watch it all the way through because the film was one linear strip of media. However, the digital video of today is file-based, meaning that each time the camera is rolled, a new file is created, thus removing the need to watch the shot footage from beginning to end. It is now easy to selectively view some of it and to not view some of it.

And along with it, I've had to realise that it's quite a struggle to get some students to actually look at their footage. Because they've so much of it. So watching the footage in real time, which was just standard in film, because what else could you do? Even if you shuttled it fast, you saw every frame, you know. Now there are, you know, it's possible not to bother looking at all your footage. So there's some sort of fundamental shift there in unlimited storage, unlimited footage. And it throws you back on thinking about your mental capacity to deal with, with what you've got, and assess what you've got. (SE-11, personal communication, December 2, 2022)

This shift in practice, enabled by technological advancement, is not limited to screen students, but can be found to varying degrees in industry as well. This falls to screen educators to

consider whether a shift in teaching is in order with the intention of bringing back some of the discipline that's been lost.

So, to give an example about the way it affects my thinking, I was pondering this morning, whether I should start making all students slate every shot, especially in fiction, so that they think more in shots like 'we're doing a shot now, now we're doing it again'. Because some students still kind of just hose the camera around and you're going, 'where does this shot finish, and where does it start?' (SE-11, personal communication, December 2, 2022)

SE-11 concludes with a noteworthy point about the adaptive work that falls on screen educators to harness the knock-on effects of the 'abundance' that newer technologies have afforded screen creators.

So I think this this... trans-... this process, this BIG process from scarcity to plenty is an ongoing challenge that's going to take, you know, it's going to... we're gonna have to keep adapting to it. (SE-11, personal communication, December 2, 2022)

An area of thought that SE-14 sees as declining amongst screen students is film literacy, which she partially attributes to the atomisation of content brought on by short attention span-inducing social media.

The thing that I have observed that's most different is film literacy. Right? We started to lose film literacy over time. And... So this is even pre COVID. That there was the assumption that with online platforms, and all of this, people would have more opportunity to watch, and therefore they would be more film literate. But actually, the atomization of content.. a kind of.. has meant that people do... you know they binge, something they like, but they see a bit of it on YouTube, then they catch it a bit on Instagram, you know, then they see in a tick tock reel of someone talking about something and then they've actually really gotten into it and watched heaps and heaps of that show, because they found it online where they want to do their torrent today. It's not like people aren't watching, it's just that a kind of a very classical exposure that we could rely on, has ceased to exist. So that you could meet someone who watches a lot of media, but only see Korean soaps, or watches a lot of media and only sees action films, because there's that much content available. As against, you know... Like, for the longest time my students would... a film would be out, and they would have, you know, all kind of been waiting and they would watch it and talk about it in class. You know, I'm not mad about students not being able to do it now. It's \$17 to go to the cinema.

That's, you know, another kind of a difficult thing. But even all the films that are easier to access...I just don't see a kind of a desire to be film literate, except for few students who always are. [...] So that's the kind of a change in the student profile. (SE-14, personal communication, January 27, 2023)

When regarded alongside the previous discussion about the over-shooting of footage leading to only selective review of one's own (file-based) rushes, parallels begin to appear that point to a mounting impatience in popular culture. Other examples in this thesis are the rise of very short form content; SIS-8 relaying how the average length of films submitted to the festival he founded has reduced over the years to five minutes; and SE-10's opinion that audiences are growing increasingly impatient for story to progress more quickly.

There is an abbreviation commonly used on social media: "tl;dr", which stands for too long; didn't read (Cambridge University Press, n.d.). It is emblematic of decreasing attention spans brought on by the cognitive fatigue that results from today's continuous deluge of information (Dillard-Wright, 2019). Caught between the tl;dr culture that characterises a generation of students and dwindling support for screen programmes - from both tertiary institutions who are struggling with declining finances (Radio New Zealand, 2024) and a government that is instituting significant cutbacks in creative funding (Wood, 2024), all against the backdrop of the steady commodification of screen education (Dickinson, 2021) – today's screen educator finds themselves in a uniquely challenging environment.

Personally, for me, teaching screen production within the University, has become harder and harder. Because I think there is a devaluation of the kind of teaching that's required to teach studio-based courses well. When I say studio based, I mean, practice-based, I don't mean necessarily films stu-, you know, TV studio. The fact that you need time, the fact that you need resources, and the fact that you need smaller classes. [...] When it comes to you know, crazy policies on campus or all kinds of, you know, the breaking down of professional staff support, using kind of an economic bottom line to get rid of things [...] or all kinds of ways in which we are dealing with the corporatization of education. That makes me sad. I mean, one could always say "what can you do about it", and maybe not much. I just have to remain... you know, the classroom then becomes a bubble, where you teach with... because you care and because you want people to learn and they give you enough to make you believe that they're enjoying this. And that's it. You know, I go to campus very little. I go to teach. But I don't go to campus to hang out anymore. I don't think anyone does. That's a shift

we've all experienced. It's not just at one university or another, I think people just go in less. (SE-14, personal communication, January 27, 2023)

The next theme, *Leaning Into Change*, will explore ways that screen practitioners, screen educators, and those who support the screen industries, are responding and adapting to the changing environment that this research is considering.

4.1.3 Theme 3: Leaning Into Change

The core concept of this theme is finding stable ground. Theme 1 (Faster, Cheaper, More Complex, More Competitive) focuses on converging pressures, and Theme 2 (“Blurring Lines, Changing Values, Evolving Needs, Shifting Roles”) focuses on the shifting landscape. The images I’ve used to describe each themes’ core concept (converging pressures, shifting landscape, stable ground) allude to seismological forces at work re-shaping the environment in which we live, rearranging the very ground on which we build our lives, the ground many assumed would always remain stable and would always be there. This theme, Theme 3 (“Leaning Into Change”) focuses on processes that participants are employing to not only cope with change but to leverage change as an empowering tool for growth, thus walking up to higher, more stable ground, where they are less apt to be shaken by recurring seismic shifts.

Sharing their personal approaches and strategies for responding to the changes discussed in Themes 1 and 2, participants explore challenges that have arisen for them while grappling with accelerating change and with VUCA (volatility, uncertainty, complexity, and ambiguity), and share some of the insights they have achieved and the growth that they have undergone in the process of taking charge of their own futures.

What follows are excerpts from the participant interviews, organised around the following sub-themes:

- Finding Pathways to Acceptance
- Being a Work-in-Progress
- Spreading Wings
- Words to the Wise
- Practitioners’ Advice to their Former Selves

4.1.3.1 Sub-theme 3a: Finding Pathways to Acceptance

The participants in this study discussed a variety of approaches to coping mentally, emotionally, and practically with the evolving environments in which they found themselves as a result of changes in screen. The first step toward acceptance of the constantly changing landscape was identifying what it is about change that causes the dissonance. For example, Camera Assistant SG-15 discovered that his initial resistance stemmed from holding on tightly to the methods of practice that he'd taken years to master. Underneath this resistance lies the fear of possible replacement by technology.

I think for a long time, and I think it's partly with the people that I worked with when I first started, was I was quite resistant to, to change, because it's like it is . . . it's a strange thing, because it's like you're . . . you build all these skills in the area, and then you're basically saying, don't, we don't need those skills anymore, because there's a piece of the technology that does that for you, y'know? And so it's like, and you build like, it's like a bias towards your skills, because you know how much time it took. So you start sort of convincing yourself, it's like 'no that technology can't do it, as well as what I can. (SG-15, personal communication, June 24, 2022)

Post-production Sound Technician SG-18, a graduate of the same programme as SG-15, but with seven more years of experience under his belt, has learned to deal with his fear of having a “use-by date” by not allowing himself to stay attached to any specific technology.

I think it's keeping an open mind and not thinking that the tools you have are the... they are ever gonna be the ones that are going to serve you for the rest of your career. (SG-18, personal communication, December 29, 2022)

Along similar lines as learning to sever attachments to any one particular tool, screen educator SE-11 understands the value of detaching himself from the need to be the definitive source of the latest information, a role that could quickly become quite an onerous burden in a field marked by constant change.

I think that that... that coping with change, you have to be, you have to cope with exploration, you have to cope with falling behind and catching up. So, humility is a really important quality. Not trying to pose as the know-all in front of the students is really important. (SE-11, personal communication, December 2, 2022)

Exploration and curiosity are not limited to the education sector, of course. For digital studio co-owner DMIP-7, they are among the fundamental principles of her studio.

One of our values as well, at [our studio] is, you know, always be curious. It just is look, look for that solution. Look for... don't always think that the first answer that comes to mind is the right answer, or the only answer. [...] Nothing's black and white to me, I think there's always a couple of different answers to things. So go and find those different... it's almost like [...] the more I have to look at, the more I have to think about and so the more choice I have. (DMIP-7, personal communication, October 21, 2022)

Educator SE-12 echoes the idea of not settling for the first answer but continuing to trial different versions until the best solution is found – for the moment.

So I think I've got a perception of the world that I don't need to know all the answers, that I'm really comfortable not knowing answers. I'm also an iterative person, I, I believe in iteration and, and trying something out and then changing it and not being, not being like this is the one way we're going to do this, we're trying to come up with the perfect version of it. I think that's a little bit how my brain works. (SE-12, personal communication, January 12, 2023)

The process of continuous exploration for unfolding solutions can afford one a sense of empowerment and freedom to embrace evolving technologies and methods because intrinsic to this approach is the understanding that all solutions are mutable and flexible and can, and should, adapt to the given circumstances. Allowing oneself to become 'unstuck' from one tool or from one method on repeat can open the door to novel ways of approaching the work, such as exploring the new tool or method with a sense of play rather than as an obligation to learn yet another thing. In this regard, SG-17 offers this advice to his younger self:

Just play... like dabble a little bit more, just dabble in things a little bit more. And don't do it with any intention other than, like just scoping it out. Just get a, just get an idea of what the new thing is, just get an idea of... or the people who use it, you know, talk to them about it, or just be more open to that first bit of information. Because quite often, something new comes along, and you put up a wall, because you're like, I'm not ready for this. But if you just peek over the wall a little bit and see what it is, sometimes that's intriguing. And it makes the whole process easier. You don't have to learn it all today. You know. And you're only going to learn it by doing it. So give yourself that like, peek

in to what the thing is, in any capacity will help. (SG-17, personal communication, January 13, 2023)

SG-17's guidance to "be more open to that first bit of information" might seem, at first glance, to contradict the advice of the two prior participants to go beyond the first solution. Indeed, they are similar in their advocacy of moving beyond one's comfort zone. DMP-7 and SE-12 are discussing the need to engage in solution finding with a spirit of exploration, of not being content to rest after the first answer that surfaces but continuing to venture beyond it. SG-17 is addressing the need to move beyond the fear of the unfamiliar by taking that first little step into the new. As discussed above (in Theme 1, section b. *Things Are More Complex*), often a practitioner will be given very short notice to learn a new tool or method. What SG-17 describes above is a less urgent approach to upskilling that brings it into a more casual zone of playfulness with the intention of defusing any pressure resulting from the bombardment of newness. Cinematographer and educator FIV-3 takes this guidance a step further by suggesting that new entrants into the screen industries adopt not only a playful spirit but also a bold one.

Well, just be brave, I guess, just be brave and try it out. Make mistakes, just make mistakes. Go- and I tell my students this: go out, make mistakes. And they look at me like Christ, we're not supposed to do that. And I'll go yes, you are. That's the only way you learn. It's like, you know, I'll just say when you're guaranteed to record bad audio, because that's what students do, (laughs) try to get the audio right. Try to get the audio right but other than that, make mistakes. [...] It's okay...be okay with it. Their level of anxiety to do with having to be perfect because we're all being watched. And we're watching ourselves we don't even need to be watched. We're so self-focused and watching ourselves constantly. Yeah, being... Yeah, live as though nobody's watching you. Make yourself small to learn humility. Listen. Be little. De-centre yourself, you're not the main event. (FIV-3, personal communication, October 14, 2022)

Change anxiety has been a sub-textual theme running underneath many of the participants' responses. SE-14 suggests that by continually urging students to prepare themselves for a changing world, educators may be adding yet another layer of anxiety, the energy and attention for which could be better channelled when directed toward more positive mindsets.

There's so much anxiety among students. There's an anxiety generally, you know, it's a more anxious world with um... and I think in constantly kind of saying, you have to be prepared, because everything's changing, you have to be prepared to face change, my

fear is that we don't ground them into some good stuff that they already have, and should always hold on to, right? (SE-14, personal communication, January 27, 2023)

Periodically nurturing and developing students' existing strengths before ushering them into new areas of knowledge could serve to focus them in the present moment whilst laying a foundation of confidence upon which they can then begin to build their creative/technical practice in a less pressured learning environment. This might, in turn, also help to ease anxiety about the future.

Um, oh, look, I think part of it is just live in that moment. [...] That moment that you're trying to figure out and solve. That's, that in itself is quite enjoyable. And a lot of learning moments can happen right there. That's what leads to the next step. You know, so I think, don't forget to kind of just enjoy it. (DMIP-7, personal communication, October 21, 2022)

FIV-3 has chosen very deliberately to reduce the overwhelm that can accompany complexity.

So yeah, it was a very conscious decision not to worry anymore. And the other thing I decided to do - and this is like really important for me - is that I, because I've got so many things that I have to do in my life, so many things, most of which are not paid. But I have to do all of these things for my research and my work and my creative work - is that I see my tasks like a marble, like a glass marble. And all of these tasks are put into a funnel. And only one marble can drop out at a time. So whatever marble is in my hand, that's the task that I do. And I'm doing that task. I forget about all the other ones, I do that task. And then I address the next task, because they're so different from each other. (FIV-3, personal communication, October 14, 2022)

Part of a mindful effort to concentrate on existing strengths, and to do so in a way that focuses the student on the present moment, might involve work to enhance self-knowledge.

So I always feel that the best way to be adaptable to change is to be very sure about who you are. And that kind of, you know, for a writer, I think it is important to know who you are. And those those skills, if you can give people the confidence to be grounded. I think that will carry them better than for me to expose them every third day to the new thing that's in the market, or a new idea that's not even going to survive, given how quickly things become, you know, obsolete. I mean, I can say this, maybe, because I teach screenwriting. Maybe I would talk to you a bit differently if I was a directing teacher or if I was doing more, you know, technical work. But as a writer, I

just feel, you know, deal with change - because of course, we have to prepare them to deal with change, of course, because change is the only permanent thing. But change HAS been the only permanent thing. (SE-14, personal communication, January 27, 2023)

As tools, methods, and external priorities continue to shift around them, developing an understanding of one's own values becomes an important factor in grounding the practitioner by providing them with a philosophical ballast to anchor them. A carefully considered set of personal values can enable a broader perspective and help the practitioner to weather the smaller changes, as economic development facilitator SIS-9 attests:

I think change always has a process and (I) trust that that process will take its course. Not sweating the small stuff. And having some personal value set that you can fall back on or rely on to talk to yourself, because, y'know, change is challenging. Having a level, and this is something I've had to learn to... having a level of confidence in your own ability. I think is something that I've learned, it's not something that I had 20, 30 years ago, I wish I had it back then. And, I guess acceptance that change always happens. Nothing stays the same. (SIS-9, personal communication, October 21, 2022)

To the extent that confidence is built in layers - some being able to be developed in a structured learning environment and others needing to be acquired through experience - SIS-8 suggests that an important element on the experience side of confidence-building is what has been described as acting “as if” (Vaihinger, 2021). The principle of “as if”, further described on p. 115, is an epistemological construct related to acting under the assumption that something is true regardless of the lack of evidence to substantiate it. SIS-8's first sentence below is a good example.

I've always had confidence even when I didn't have anything to back it up. And so I feel like that's it's just lived experiences that gives you the confidence and gives you the ability to weather all those concerns. And it's just yeah, I feel like it doesn't happen overnight. And it's, you know, it's something that you just develop as you go along, you know. (SIS-8, personal communication, September 9, 2022)

FIV-3 emphasised how important it is to have a support system for bolstering confidence and embracing change.

But the isolation for me was a killer. I really hated being so alone. I hated it. And I don't know that any people, you know, people realize that that was my life. I mean, people

often say to me, but you're gregarious, you're surrounded by people. But that's not the reality. My reality is that I'm at the kitchen sink, looking out the window, wondering where everybody's gone. So I think, you know, could I have built a stronger community around me? Could I have? Well, actually, I guess if I had started making films of my own earlier, at least, I would have had my own film crew as my friends. (laughs) Yeah, I was lacking in confidence. But I don't know that I could tell myself to suddenly be more confident. I don't know if it works like that. (FIV-3, personal communication, October 14, 2022)

Participants explored other factors that have helped them develop confidence and build an acceptance of risk and change. SE-12, for example, attributes some of his resilience to his having grown up in a secure and loving environment.

Maybe also along the way, there was security from my parents and [...] so it's a lot easier to embrace a certain degree of change when you feel like you've had a secure, loving environment. Y'know, I'm probably least capable of handling change when I feel insecure, when I feel like change, y'know, that negative change is constantly rolling over me. Well, of course, you're not going to like change. But I've been very fortunate in that most of the change that I've seen in my own life has been towards the positive rather than the negative, or I make things change when I feel that they're moving in a negative way. (SE-12, personal communication, January 12, 2023)

It is easy for many creatives (including myself) to closely attach our definition of self to each work-related interaction or activity. Whilst success in almost any endeavour in screen relies on a high level of personal engagement with practicing one's craft at the highest possible level of quality - which often means becoming personally involved in the hoped-for outcome - these participants highlight the importance of keeping some detachment from the interaction or activity and not being invested to the extent that one's self-worth is enmeshed with it. Both excerpts below are responses to being asked what advice they would give their younger selves to be better prepared for change.

Not to take things personal, it's not about me. I think that is the hardest thing, not just in the film industry, but and it's a global thing that people take a lot of things that happen around them very personal and the film industry with its hectic, and its intenseness, you know, it's very easy to take things personal, which adds to the stress. You don't know what's going on, in somebody else's mind. [...] We, we live based on assumptions. So if I had known that earlier, I think I probably would have wouldn't have stressed about

a lot of things quite as much. You know, because you will, when you're starting out in a job and you're trying to find your career, the job becomes very quickly an extension of yourself. And so everything that happens in the job, you quite easily make mean about yourself, or add meaning to about yourself. And it's tough, because in the film industry, somebody has a bad day, you know, talks to you rudely or that harsh, and you take that personal, it's already stressful. That conversation could go much, much better if you're able to disconnect yourself from whatever that person is going through, and just take it for whatever it is, and just chill. So I think that that is that is probably the most important lesson that I would like to pass on to any young person. Just you know, to, to keep their sanity and their confidence and self-esteem, because it's so easily destroyed, and it doesn't have to. And the film industry is a really...or, the entertainment industry in itself is a very, very tough business. Because you expose so much about yourself in the job. (DMIP-5, personal communication, October 16, 2022)

I would say don't be afraid of failing. It takes a while to not be afraid of failing. You really, like, if your business fails or the idea doesn't happen or it's not as good as you thought it would be. It's not...it's not you, like it's not just your heart and soul. It doesn't define you, it's just a thing you tried and the outcome was X and then you go and try the next thing. So rather than going: should I do this? Can I make it succeed? You go: should we do this because is it worth doing in the first place and regardless of if it fails or not? (DMIP-4, personal communication, September 2, 2022)

It is interesting to note that both participants are in the Digital Moving Image Practitioner (DMIP) group and that both of them have been through a few different career incarnations. Both began in roles directly tied to the conventional film & TV sides of screen, and both pivoted as the industries began to shift. It is worth pondering whether 1) they had within them already an ability to detach to the extent that they were not tethered to that particular identity as defining who they were as practitioners, or 2) that having to go through the process of learning to pivot as a survival tactic has developed within them a necessary detachment. Either way, screen practitioners can find value in the insights around detachment.

4.1.3.2 Sub-theme 3b – Being a Work in Progress

The undercurrent of this sub-theme is about finding ways for the fledging screen practitioner to see themselves as never fully completed but as always growing. There is no finish line at which point one is deemed to be 'done'. Were there something that approximated a finish line, the pressure to arrive could become overwhelming for some, added to the anxiety around what

exactly defines doneness, particularly as the evolving screen landscape keeps moving the goal posts. Rather, the grace of remaining in a fluid state of self-definition leaves open the possibility of continual self-reflection and growth and enables the practitioner to see risk as just another element of a well-balanced career meal.

For FIV-3, maintaining a state of gratitude, optimism, and excitement enables her to feel safe enough to take creative risks.

There's a whole lot of things. Gratitude is really up there. But also, I'm a real optimist. And so... which makes me excited, I get excited by things. So that if I'm moving into a new zone, I'm excited. So I take risks. I don't take risks with my life. I don't drive too fast or any of that sort of stuff. But I take creative risks. (FIV-3, personal communication, October 14, 2022)

DMIP-5 describes risk as something that one must simply resolve to take, then just jump.

I think I get to a point where I'm no longer worried about risk. I just know that I have to jump. And so it's no longer about the risk. It's kind of like, you know, sink or swim, you just gotta do it. And, and then you just leap. And then recognizing opportunities, or even creating opportunities. Because you have to. And I've, I've always been an opportunist. I mean, I only ended up in New Zealand, because I got a phone call out of the blue from a colleague who said, 'We're looking for a Flame Op. Do you want to do it?' And I was 'Yep. Why not!? Okay. Let's move to New Zealand. Sure.' He said 'you want to think about it?' It's like 'Nah. Nah, let's do it. Time's, right. Yep. Let's do it. Cool.' And it was literally it was like that. So, I didn't I didn't mess around with decisions. I just, I just, you know, if it felt right, I would say like, 'Yep, let's do it feels right, let's do it. Sure. (DMIP-5, personal communication, October 16, 2022)

SE-14 is a little more reflective; her capacity for resilience has been supported by achieving a life balance between her career as an educator and her own creative practice. Additionally, her understanding of the ephemerality of life's elements helps her to keep a healthy perspective on changes that crop up in her pathway.

Um, to be perfectly honest with you, it's, it's, personally as a human being, I'm way more resilient now than ever, because I have a practice outside of my vocation, my job my... that keeps me grounded. You know, the world is... no one expected COVID. No one... like if you don't learn from these things about the impermanence of everything, then you're just a little bit daft. So, I try and remind myself that even when I'm

ridiculously happy about something that this too shall pass. Because it's not just a sadness that doesn't last, even the good stuff doesn't. So, in a sense that for me, it has been really important to learn to be more okay with change. (SE-14, personal communication, January 27, 2023)

This outlook echoes the detachment discussed earlier, but on broader and deeper levels.

Having gone through many career incarnations, with a variety of ups and downs, DMIP-6 has relaxed into a position of acceptance with regard to change.

I don't give it so much power anymore. Change is just change. And life is change. So and you can't control it. Don't even think that you can control it. In my 30s. I thought I could, in my 20s I thought I could. But I'll be 70 next year. And I don't worry about change now. It's like... just bring it, whatever it is it is. Bring it. We'll handle it when it gets here, you know? (DMIP-6, personal communication, September 18, 2022)

Participants have gained flexibility by acquiring a variety of experiences in different parts of their field. Cinematographer FIV-2 finds that working in different departments on a film set is invaluable for developing a broad understanding of how the process works.

Just getting out there and doing as much of a variety of things you can do to give you experience, I mean, I always think that the best thing anyone could do on a film set is [...] work in any, any and every department, even if you... even if you want to be a cameraman, you know, it's really important to understand as many different departments as you can. And you've, it's hard to do that until you've worked in them. (FIV-2, personal communication, September 15, 2022)

And cinematographer FIV-1 credits his professional adaptability to being flexible about the scale of productions he works on as well as with the roles he fulfils - from being a single-person crew to managing a large camera, lighting, and grip crew.

I think I've always found the fact that I'm lucky enough to work in a multitude of disciplines within the cinematography field. And that's been a great strength because I've started off shooting documentaries, music videos, shorts. And I've been around the world you know, as a, maybe with just a director and even doing my own sound, you know, as a one man band. So I'm equally happy working with a director or even on many occasions like I've just done behind the scenes for nine months on Lord of the Rings TV series, primarily working as a one man band and self-directing. So I'm equally

happy happy doing that as I am having three trucks pull up with you know, a team, a team of 18 under my immediate control to produce the imagery and pull out all the toys. So it's that ability to adapt I think is one of my strengths. (FIV-1, personal communication, June 28, 2022)

Post-production sound engineer SG-18 also finds that the ability to wear many hats has become a necessary reality of the screen workplace today.

More and more, I think, you know, we have to... it's more useful for a company for people to be multi-skilled, and to wear a lot of different hats for one project. [...] because otherwise, [...] they would have to bring in other people. And even if they are full time employees, they might be sitting around for quite a while. And that, and without... with nothing to do, and that's not very efficient or economical. [...] Some of the, the content I work on, I also track-laid it all. I've also done the dialogue edit. And then mixed it. and... At the company where I'm currently working, because I'm the most experienced with Foley, and it's the thing that, yknow, I've got the most experience, I have tended to just be in that capacity on these... on the last few dramas I've worked on. Yeah, although, I have had to jump in and record a bit of ADR. So, yknow, knowing how to sort of ride faders around the dialogue to... so that they get some context of what they're recording. Yeah, I've had to, I've had to know that. (SG-18, personal communication, December 29, 2022)

Applying the many-hats model to teaching and learning screen skills, screenwriting lecturer SE-14 expresses a vision for screen education that includes multi-disciplinary learning, enabling students to have a broader base of knowledge, leading to a wider, more global perspective, to pour into their screen works.

You know, film schools should be where you do anthropology, where you do psychology, where you do criminology, where you do, you know, film studies where you do, like, you have to have more than just film in your arsenal. (SE-14, personal communication, January 27, 2023)

4.1.3.3 *Sub-theme 3c – Spreading Wings*

Creative risk-taking might be described as staying true to one's own inspiration or artistic intuition even if it may lead to an output that others consider unconventional or otherwise unacceptable. Emerging technologies are providing creatives new opportunities for expression

and are giving rise to fresh forms for storytelling. In his incarnation as moving image creator, SG-17 is forging his own approach to making work.

I'm basically... I'm developing my own style. And it's great to see what's possible. It's definitely great to learn some of these techniques, but I'm gonna do what I'm going to do. And it's going to be my style, whatever it is. [...] People are more specializing into styles. And these styles are getting more and more niche. Which is really cool. Because if you're doing a series, or whatever, you can bring these people in for different moments for different parts, different storytelling elements. So you can have more creative cameramen, more creative directors in there. Maybe that'll mess up cohesion. But I think that might be a different form of storytelling, that might be a different way that we make things in the future. Because there'll be room for more people. And that's as creators, not just assistants, and... assistants will, will always be there. Because, you know, we'll always be there. But we'll also get the opportunity to jump in at a higher level, I think more often too. (SG-17, personal communication, January 13, 2023)

SIS-8 concurs, highlighting the importance of developing, and being true to, one's individual creative voice as a crucial tool for connecting with an audience.

Just be yourself. Like, that's the truest thing is like, you know, the old adage 'Write what you know' should apply to everything, but especially to a creative voice. [...] Yeah, they need to, they need to shine some light on themselves. And there's various ways you can do that. It's either by making a huge ruckus or having a unique selling point. And the, the singular unique selling point that we all have is our voice, right, and being true to that voice. That's the only thing you have over everyone else. And you can learn technique, you can learn all these other things, you do the 10,000 hour method, if you believe in that aspect of it, but it's, it's more about, like what you'd like to say. [...] And so, there's a sort of long history of people thinking that, you know, film seems to be, well it was, for me, it was like the upper echelon of it's like, the evolution of... of all the art forms wrapped into one, in a way, that's the way I always justified like, why it's the best. But in these days, the way to create stories is, is so... the spectrum is so wide, that it could be like I want to be, you know, I'm going to tell stories but I'm going to be using audio only, or I'm going to do it, I'm just want to focus on VR. It's like finding what aligns with you and and can escalate your voice getting to the widest audience. So if you're just doing things for yourself, go paint in the shed or whatever. But for the most of us is like you want people to experience your story, right? So it's how to deliver that to the widest audience possible. And that feels like a very, sort of

establishment mainstream way to approach it. But I've never been that proponent of "my art is more pure, because only four people came to my gallery opening". This is horseshit. You know, great voices, great art, should be able to appeal to... right across the board, there should be no tiers to artistic interpretation. (SIS-8, personal communication, September 9, 2022)

The ongoing journey of authenticity, for many, leads to periodic re-invention of self or re-purposing of one's approach to their craft. For DMIP-4, this translates to continually focusing on the road ahead, maintaining a steady momentum driving forward, never letting your foot off of the accelerator.

I think it's just the never being comfortable, always needing to... as soon as you're comfortable, you're dead. That's kind of the mentality I live by. So if I start to get too comfortable, I think I'm not working hard enough. So I come up with something else that's big and different and risky to do. So I think that's one thing. I think the other thing is like, you kind of need ingrained in you that - it's gonna sound a bit stupid - but 10 minutes early is late and your phone going off even once in a meeting is unacceptable. And like your just... your level of what you put on yourself is really high, and then that filters down to your team. So that's one of the things I think just the absolute grit to keep going no matter what, really thick skin, don't care what people are saying, not affected by tall poppy syndrome, just go. Like, don't even look up, I don't, I don't look at what our competitors are doing. I'm just like, This is what we're doing. And we just keep going. (DMIP-4, personal communication, September 2, 2022)

The essentiality of human connection was reflected upon by the participants through various frames of reference, including networking to expand one's client base; reaching out to friends and colleagues to solidify one's support network; and maintaining collaborative relationships. DMIP-4 does not always immediately embrace opportunities to join industry events, but they find that once the decision is made to accept an invitation, something valuable always comes out of it.

When I get invited to do like, keynotes and things, right. I always go, I can't be bothered, you know, and then I go, actually, I should do it. And I will do it, even though it's not what I want to do. And so I'll go yep, I'll do it. And then I'll go and do it. And never once has there been an event that I've said yes to that has not had a good outcome of someone I've met that turned into a project, or a conversation that led to a different way of thinking or... never once, like I've never left an event going 'I didn't learn one thing',

'I didn't meet one person', 'I didn't get one lead of a project', 'I didn't get one idea'. I always... I go: 'oh thank god I came' where I wouldn't have thought about blah. And I've seen a few people bitch and moan about: 'oh, I only do it if I get paid', or 'I only do this if I get that'. And I'm like, that's just... I've never thought about it like that. Because the benefits you get from just being there are huge. Like it's brand new, like you're doing... even just a networking event just to meet one person. It's just that I find it really bizarre that some people just go no, you need to get paid for every second of your time. I don't I don't agree with that. And I don't think I ever will. I definitely... there's a fine line, right? You don't want to just be doing free stuff. But there's other benefits that you get outside of money. And I think it's good for especially people trying to build up their portfolios or build up their networks. (DMIP-4, personal communication, September 2, 2022)

FIV-3 also deeply understands the importance of human connection but is among those who sometimes need to give themselves a little push to attend.

I think also, too, is that I'm a, I really believe in relationships with people. So I... other people would call it networking, and they would think it was very superficial, and social and kind of . . . but I suffer from social anxiety. But I don't let it stop me, I kind of push through the pain if you'd like. Because I love people. And I love being with people, I'm energized by people. And I believe that most of the ills in society have to do with the breakdown in relationships. So everywhere I go, I'm connecting people up, and I do it consciously. And it really creates change for people, and for me, there's a big change maker. (FIV-3, personal communication, October 14, 2022)

Creative collaboration is a mode of connection that can now easily be engaged in across the planet, removing co-location as a requirement for many forms of co-creation. For SIS-8, this is important to remember in order to stay open to opportunity.

Don't be trapped by geography. Like you can, you know, I know people who are now partnering up with writers in the US that that distance is just non-existent anymore. So the collaboration aspect of it, which was always a part of [the open film festival I co-founded]. (SIS-8, personal communication, September 9, 2022)

Whilst remote collaboration has opened up vast horizons of possibility, DMIP-7 emphasises the importance of the physical face-to-face connection as something that must not be allowed to deteriorate.

I feel like there has to be a balance in our lives, you know that for the... we don't want to stop engaging with people. We don't want to engage with people only through screens all the time, you know, for your loved ones. And, and what does that mean for for the future of humanity really. And so in a way COVID showed us all you know, as awful as it was, it showed us all that we all wanted to be around people [...] So how can we make sure that we can work towards making sure we can maintain our humanity? What does that mean for the world, the spaces we live in? [...] And so our experience is always about, you know, for [our company], at least, the physical and digital link, for us, it's how can we create more spaces and moments for people to engage in play with each other? You know, so actually, how can technology help that? And so that's essentially across the board, you know, [our animation company], as a studio, was all about entertainment for everyone. So very conscious of what, you know, games are available for kids at the moment. [...] How can we create content for them that they can play with their family together as a group and kind of do that? And so getting rid of that stigma that surrounds games, you know. (DMIP-7, personal communication, October 21, 2022)

SIS-9, who has a broad view of activity across all screen's sub-sectors, sees an increased focus on employing screen technology in the service of positive change.

And so whether it's gaming, or AR, VR applications for health, or education, [...] it's looking at... screen (as) the kind of the genesis, but now the skills from screen being applied into other mediums and into other sectors that affect and help people's lives [...] And that's good because the applications of gaming and most of technology flow into health or education. (SIS-9, personal communication, October 21, 2022)

The AR/VR/Experience Design company that DMIP-4 runs is now taking on fewer projects designed solely for entertainment and is leaning more toward clients who work with environmental issues and service provision.

So we were doing a lot of entertainment experiences, we now do more experiences that have outcomes for people. So medical outcomes, mental health outcomes, environmental outcomes, so we do some stuff from forestry. We do some stuff in medical so we... there's only so many jobs we can do. We've got 10 on the table, which ones do we pick? We don't pick the one-off really exciting entertainment experience anymore. We will go What would we want to do? This one has the potential to impact X amount of people's lives? Let's do that one. So that's what we're doing differently. (DMIP-4, personal communication, September 2, 2022)

The company run by DMIP-5 creates augmented reality games largely aimed at educating kids about the world around them, but in a fun way. Like SIS-9, she is seeing increased interest and investment in the use of screen technology towards content with impact.

Everything I do over the last seven years has been very, very much driven by ethical considerations, ethics and facts. Environmental and community impact have become more important than monetization. And for us, it's probably reasonably easy to say that because the government pays for it right? We are not a game that makes money from users. All of our games or all of our simulations are free to play. But I'm seeing a change, probably stemming more from the younger generation where investments need to be considered based on their impact, and not their return on investment. So that means that entertainment will probably end up the same way, what's the impact? [...] So for me, now, the journey that I have been on, I feel the responsibility to help people understand not so much what they need to focus on [...] but: how we can have a better impact on the community, how we can do things the right way. [...] So how can we rewrite the idea of entertainment, rewrite the idea of theme parks, rewrite the idea of using media for impact? (DMIP-5, personal communication, October 16, 2022)

To illustrate her efforts toward creating powerful media that has impact in the world, she describes her collaboration with a New Zealand filmmaker (who is also, perhaps most notably, the founder of a major film special effects company) on a multimedia project related to the environment.

He is such a good storyteller. And he knows how to build something that that just just draws you in and delivers that experience. That is only possible because we have mixed media, where your brain believes that is real, what it sees, and it can touch you and move you. So you walk away and you want to step into action, you want to step into action, you want to make an impact. And that is that is what we're looking for. So that explains a little bit better, what I meant early on by creating impactful entertainment, where it has a different driver where it has a different purpose. And where it's coming from an ethical stance, where it's for the better good for it's... for the greater good. (DMIP-5, personal communication, October 16, 2022)

4.1.3.4 Sub-theme 3d – Words to the Wise

Participants pointed out that even though screen practitioners will face a growing need to incorporate adaptability into their skill sets as the screen landscape continues to evolve, it is important for each practitioner to remain focused on the uniqueness of their own contribution.

I mean it's easy to say flexibility and being agile. But that that can be easier said than done. I think I think it is understanding that it's not the tool that is your skill. Tools can change. But understanding that your skill might be having a really good eye for camera, having a really good eye for colours, having a really good eye for movements, or for shapes or for characters, or for whatever - wardrobe makeup, you name it, edits. You know, the tools will change. And I guess, part of the... what I see a little bit as the confidence buster potentially, is when AI comes in. [...] So I'm trying, I'm trying not to see AI as competition, because I think in the long run, we can't win, they will always outsmart us, you know, you look at the artwork that AI can already create. Um, and it's going to get smarter and on an emotional level. [...] So the thing that worries me the most is that some people might kind of like feel that their skill, their unique talents doesn't have any worth in the face that computers might be able to generate things. [...] But it is... it is sticking to your guns and understanding that this is your unique skill, it is your unique vision, it is your unique concept. And nobody can take that away from you. It is your uniqueness that gives it this specific view. (DMIP-5, personal communication, October 16, 2022)

This echoes the argument by Arielli and Manovich (2022), who hold that humans would be wiser to embrace AI as a creative partner than to shy away from it as a competitor or a threat to human creativity (Arielli & Manovich, 2022). To that end, DMIP-4 feels that New Zealand needs to invest further in the creative sector to ensure that there is still a place for them.

Creativity is the only thing that cannot be automated and there's no algorithm for it and it needs people and so I see there are people being replaced left right and centre by technology but that this is an industry that that can't really happen in, at the moment anyway, hopefully that stays, and so I think the people and the artists in the communities - because already if you look at the film sector and these new technologies and things that are replacing jobs already... so the crew sizes are getting smaller and smaller and smaller and smaller. But it's the actual creative and the story, it's all the story centric stuff that cannot be replaced so I want to make sure that that is what is invested in... if we don't invest in our creatives, one: they're gonna go to a different country and do it because the other countries are investing in them, or two: they're gonna just do something else. (DMIP-4, personal communication, September 2, 2022)

DMIP-6 has mixed feelings about the potentials offered by emerging technologies such as AI.

I look I'm, I'm excited. I'm really excited about where it's going. I'm a little bit afraid at the same time. But when I say I'm excited, I'm excited about the technology advances that we can make. But I'm also a little bit afraid that we'll become lazy creatives. [...] I also worry about the young ones becoming desensitized to a good story. And learning from that, and learning life...life skills or just appreciating other people's experience of their life and respecting it. And what I'm seeing now is dangerous. I don't know that... how that can come around, I don't I can't see how that can come around. (DMIP-6, personal communication, September 18, 2022)

As important as it is to understand others' experiences of change in hopes of being better prepared for still more change to come, it is also important to temper these discussions with an awareness of the allure of change, and a caution to not be swept in by its more seductive elements. In the case of screen education, whilst there is value in exploring ways to enable students to develop agility in hopes of enhancing their career sustainability, it might also be beneficial, as has been explored above, to facilitate their self-development such that they remain strong and clear about themselves as practitioners no matter what changes the weather might bring, as these participants highlight.

I also think chasing change is dangerous. And one of the things you can do for students is make them actually, to some level, agile, but also change proof. And there is a difference. You want to teach them agility, but you don't want them chasing change. (SE-14, personal communication, January 27, 2023)

I embrace change. [...] I like change. Y'know, maybe to a fault. If anything, that's where my fault is, is, y'know, if my character arc right now would be if I was writing a film, a guy who's like, I love change all the time. And like the arc at the end, or like the, the prompt of the character is, "he needed to learn to accept not to change". That would be the arc, rather than most films, which is like the arc is somebody who hates change, and has to learn to accept change, y'know, like, that's, y'know, so many films have that arc, y'know? [...] I do recognize when change means that you're destroying something fragile, that won't be recreated. And that's something I think I've become more aware of, that's a little bit of a aspect of the system that we live in that things can get destroyed, and there won't be another version of it for quite some time. (SE-12, personal communication, January 12, 2023)

4.1.3.5 Sub-theme 3e - Practitioners' Advice to Their Former Selves

Looking back on the earlier stages of their careers, many participants said they wished they'd moved ahead earlier, had moved more quickly, and had not allowed themselves to be held back by their own apprehensions.

In the discussion about risk above, SE-12 describes the secure and loving environment of his upbringing as being an important contributor to his feeling comfortable with change. By contrast, FIV-3, who grew up in a more critical environment as a child, has learned, over the years, the importance of not waiting for approval to create change for herself (which, in her case, involves just grabbing the camera and going out and making a film).

My father was very, very critical and damningly critical of everybody. And so you can't talk yourself out of that one. You know, because it happened. And... but I might still say to people who... my younger self, just grab the camera and go make the film. Just go do it. Don't wait. Don't wait for permission. Don't wait for funding. Don't wait for someone else to tell you it's a good idea. Don't wait for someone to tell you that you're good. Just do it. And then you'll become good. It's, you know, practice makes perfect. I think that's what I would say to my younger self. (FIV-3, personal communication, October 14, 2022)

Both SIS-8 and DMIP-5 also both wish they hadn't held themselves back as much as they did.

I mean, the only one, the only regret I have is I didn't start...I didn't push myself into directing features earlier, to be honest. I feel like, I feel like I was right there at the time, when I started, it was right around when I think I could have ridden a wave a lot easier. [...] But I feel like, I feel like I could have made greater strides that when I should have kicked into gear, but for so many reasons, I didn't do that. [...] But that's, that would be the advice is like, drop the fear. [...] All this internal fear and hurdles and barriers that we put up in terms of making those leaps to being... putting ourselves out there looks so minuscule once you've passed it. And just like, life is so short, especially if you hang around on Facebook and watch people you know constantly dropping off, which seems to be happening these days. All that stuff, all that fear is just ridiculous. So it's just drop...Losing the fear is just the number one thing I would drill into my kids and everything is like...There's no worse that can happen, if you just pursue something, there's just nothing, you know, people are crippled by fear. And the minute you learn to live like Bruce Lee and go like water, you'll find it revolutionary in terms of how you approach anything. It's easier said than done (chuckles). But that would be the mantra I would

draw into my younger self. For sure. It's the number one thing that keeps us keeps us with a lot of regrets if you don't, don't face it early on. (SIS-8, personal communication, September 9, 2022)

I wish I hadn't... I think I wish I hadn't stayed stuck in a place that I didn't enjoy for so long. But it was a matter of confidence. (DMIP-5, personal communication, October 16, 2022)

Conversely, DMIP-6 feels she might have been moving too fast in some regards. She would ask her younger self to be a little less hasty, particularly when it comes to business choices.

Yeah, I would have slowed down. I made a lot of snap decisions that weren't always... didn't always work for me from a business perspective, worked fine creatively. But the creative doesn't necessarily pay the power bill. So I would have taken a breath and just slowed down a little bit. You know, I grew too fast, it just went all too fast. And I lost control. Because I was out there. (Pointing first to her head, then away from herself. She's indicating that what was important to her were things that were external to her and her self-worth was, to a certain extent, in the hands of those who judged her output, the programmes she produced.) Because that's where my value was for me. But I had to come here, (pointing to her inner self, to her heart) I had to be in the present. And so I'm more present now. [...] And when you look at it, you know, the mental health of a lot of our mentors and poets and filmmakers and writers, I mean, you know, we're all a bit wacko, I think. (DMIP-6, personal communication, September 18, 2022)

Today's mounting VUCA climate is steadily encroaching on mental and emotional health, leading these participants to reassure their younger selves with a little pastoral advice.

Oh, take care of yourself, be kind. Take care of yourself. (DMIP-6, personal communication, September 18, 2022)

Know it's going to be okay in the end. And it's just part... the change cycle is always in place. So be resilient, be anchored. Know what your bottom line is for yourself. You'll be okay. (SIS-9, personal communication, October 21, 2022)

4.2 SUMMARY OF RESULTS

As is evidenced in this chapter, changes in both screen practice and in screen education have impacted the participants in various ways. Some of these changes have to do with the tools

used in screen creation; some of them have to do with the creative process of screen content creation, delivery, and usage; and other changes are occurring related to the ways in which people work together on a project. In this latter regard, many examples of positive change affecting people and practice have been shared. These include movement toward more equal gender balance across screen roles (with a long way still to go before parity is achieved, but there is movement); an increased presence of Māori and Pasifika crew members (also a long way still to go); a steep reduction in on-set bullying; more widespread awareness of, and care taken for, the mental and physical health of screen practitioners; tikanga Māori being observed more routinely on sets; and the addition of the Intimacy Coordinator role in situations where on-camera physical closeness is required. Other positive changes were discussed, but these are some highlights.

On the more challenging end of the response-to-change spectrum, a number of issues emerged that have prompted participants to rethink their personal approach to their practice and to their methods of executing their craft. The mental/emotional health of many participants has been affected as they continue to grapple with mounting pressures from multiple fronts.

Herein is a distillation of the main areas of concern and/or interest for the participants:

Increasingly sophisticated technology is enabling steadily escalating speed of execution in almost every facet of screen. Whilst some participants are excited by the possibilities afforded by greater efficiency (although one wonders how much of that excitement is based on the novelty of the tools that enable the greater productivity), there is also a sense of weariness, overwhelm, fatigue, and burnout that can be detected in the verbal pictures participants paint of their experiences in the transforming screen industries.

Accompanying escalating speeds of execution, diminishing timeframes in which to meet rising expectations of smaller and smaller crews, along with higher demands for increased output, results in work in which practitioners feel disappointment over having to compromise the high quality of work that they have been trained to achieve.

The continuous evolution of new tools and methods, along with the cascade of new information required to integrate them into disciplinary practice, compels practitioners to engage in ongoing (unpaid) upskilling in order to remain industry-current, and thus employed, resulting in an ever-increasing cognitive load and stress level. Added to this is the difficulty some have had letting go of the tools and methods that they have come, over the years, to rely on.

The climate within much of the screen workplace has become that of efficiency over artistry, which, according to participants, contributes to an environment that is averse to creative risk-taking. There are parallels here with what is seen by screen educators as an increasingly employer-centric focus in screen education (and most of arts education today). For any creative, be they a fledgling or a working screen practitioner, aversion to creative risk is antithetical to self-efficacy as well as to growth and development.

Participants from a variety of age groups and levels of experience voice the fear of being left behind.

Lighter, less expensive production and post-production equipment has enabled more people to enter the market for screen jobs. Whilst this has been accompanied by an upsurge in the demand for content, some participants still experience increased competition in their specialist areas.

Screen educators speculate that the continued messaging students receive around the need to be prepared for change likely contributes to an already high level of anxiety felt by students in their late teens and early twenties.

Participants shared ways in which they've reacted internally to changes that affect their lives and their practices, and they also described ways in which they are responding to those changes. Some of these responses are thought-based, such as reframing one's perception of a negative phenomenon to cast it in a light that enables clearer thought about it, whilst others are centred in practice, such as broadening one's skill base to be able to function in a wider variety of roles. Most of them involve some sort of reset that they have either discovered or created as strategies for leaning into change. The next chapter will look at some of these strategies in the context of how they might be helpful for screen students as part of a survival toolset for resilience in a changing environment.

CHAPTER 5: DISCUSSION

The aim of this research is to discover how screen practitioners and educators have experienced and responded to change and to explore how these experiences might be used to promote greater adaptability amongst future screen practitioners. The participants' approaches to change have been analysed and then synthesised into a set of strategies for the aspiring screen practitioner. The focus of this chapter is to elucidate these strategies.

5.1 SUMMARY OF FINDINGS

The participants all acknowledged the inevitability of change but varied in the extent to which they welcomed it, ranging from resigned acquiescence to enthusiastic embracement. Each agreed, however, that they needed to find a way to live with change by making adjustments to both their specific practice, such as modifying a procedure, and to their broader approach to their work, such as resetting how they define their relationship to their craft.

To briefly recap, in Themes 1 and 2, "Faster, Cheaper, More Complex, More Competitive" and "Blurring Lines, Changing Values, Evolving Needs, Shifting Roles", participants discuss different facets of their lived experience of change. In Theme 3 "Leaning into Change", they explore their responses to change and share some of the personal approaches they've found helpful for reframing, processing, then moving through and past the various anxieties brought on by a continuously changing screen environment.

The first three sub-themes of Theme 3 ("Finding Pathways to Acceptance", "Being a Work in Progress", and "Spreading Wings") are sequenced in a progression from acceptance of externally imposed change to advancement with intentionality towards the creation of change from within. As such, they represent the central thrust of this research and focus back to the Research Question, which is: How have people who work in support of New Zealand's screen industries experienced change in these industries and how might these experiences be used to promote greater adaptability amongst future screen practitioners?

5.2 INTRODUCTION TO THE STRATEGIES

Some of these strategies involve actions that can be taken to adjust the way one approaches their craft. The majority of these strategies, however, are comprised of internal tools aimed at reframing the practitioner's perceptions of themselves and of the issues at hand. This is the

reset mentioned above. For those who experience themselves as having been on the receiving end of changes in screen, these strategies suggest possible inroads for flipping the narrative and proactively leveraging the elements of change to empower their practice. Current practitioners might also find these strategies useful.

As discussed, the strategies are framed around the participants' descriptions of their responses to change. Additionally, given the interdisciplinary nature of this research, I have drawn on elements from a variety of domains – including but not limited to educational philosophy (such as in the discussion around the pedagogy of failure as promoted by Eckstein, Creely, Choi and others), cognitive psychology (such as in the discussion around self-efficacy as advocated by Bandura), management theory (such as in the discussion around change theories as advanced by Lewin, Kotter and others), and techniques rooted in eastern philosophy (such as in the discussions around mindfulness, letting go and acceptance) - to inform the discussion around the strategies. Interdisciplinary approaches in education have been valued for both enhancing the process of generating of new knowledge (Earnshaw, 2020) and for their role in supporting transformational change efforts in higher education (Holley, 2009).

5.2.1 What the Strategies Are and What They Are Not

It is important to note that these strategies are generalisations that have been formed through the thematic analysis process. As such, they are not attributable to any individual participant and are grounded in multiple stories and approaches, so in truth are best considered as “meta-strategies”.

These strategies are not being posited as definitive solutions. Rather, they are the encapsulation of ideas for responses to change shared by the research participants as seen through the interpretative lens of this situated researcher. They are being framed here as suggested approaches that screen educators might wish to consider incorporating into their screen teaching prior to launching their students rafting into the white waters of change.

Consider them as a list of ingredients. Designing and implementing the recipe for developing these qualities within screen students is a creative act best left to the experience base, specific skill set, and teaching styles of each screen educator, as will be discussed in the next chapter. I will provide examples as suggestions for possible ways forward, but they are by no means intended to be prescriptive.

That having been said, I suggest that as they are focused on developing resilience and a high sense of self-efficacy, these strategies - however they are implemented - might be most effectively woven into the fabric of students' self-perception if incorporated early into their routines of screen practice, much as a music student practices their scales.

5.2.2 Notes on Structure

Each strategy is expressed as a gerund phrase. A gerund is a verb that ends with “-ing”, converting its function to a noun, which enables the verb's use as a subject. I've phrased the strategies this way to denote a state in which something wants or needs to occur (e.g. “Relaxing a Grip on the Familiar...”). These phrases encapsulate the participants' insights, as I have interpreted them, around areas that they are focusing on – or that they need to focus on – in response to change-driven issues that have arisen for them.

Below each name is a brief explanation of the respective strategy. As these strategies began life within the sub-themes of Theme 3: “Leaning into Change”, each explanation will be introduced by locating it within the sub-theme from whence it originated.

What follows is a table in three columns. The first column, called “Issues Addressed” contains the challenges or concerns that is addressed by that strategy. These are drawn from either the participants' own descriptions of the sources of their change-related stress (e.g. “Bias toward the familiar”) or from my interpretative estimation of the stresses' root causes (e.g. “Holding on to past ways in hopes of stopping the oncoming future”). The second column, “Aspirational Pathways”, is a list comprised of either: positive states the practitioner would strive to attain, approaches to life or practice that the practitioner would hope to adopt, or techniques for success-building that the practitioner would endeavour to practice. These all have their origin in solutions that the participants described as being helpful to them in flipping the narrative around the source of stress. The third column, “Benefits”, lists the positive outcomes that the participant, through employment of the strategy, is focused on attaining. In addition to the benefits listed in the tables, the overall positive outcomes of this exercise as a whole include: clarifying and strengthening one's screen practice; alleviating the anxiety that is increasingly prevalent amongst practitioners, educators, and students alike; and fostering self-efficacy and joy in the current and future screen practitioner.

One final note: in much the same way as the ideas and thematic elements cross over one another in the theme development stage of this research, so do some of the supporting elements of these

strategies as well. You will recognise some of the strategy elements – those listed under both “Issues Addressed” and “Aspirational Pathways” - repeated within different strategies. This is because they do not occur independently of one another, but rather are messy and interwoven due to the fact that their roots largely emanate from the same wellspring of concerns. I have parsed them out as part of my hermeneutic approach so that they may be unpacked with greater granularity.

5.3 THE STRATEGIES

In this section, I will discuss and elaborate upon the strategies that have been synthesised from the various approaches to change that have been shared by the participants in this study.

5.3.1 Relaxing a Grip on the Familiar / Allowing the New to Enter

This strategy addresses the difficulty that participants experienced in their efforts to let go of some of the older tools and methods that they had become used to using and embrace new ones. The root causes of these difficulties are multiple, including fear of the anticipated disruption caused by breaking habits of practice; attachment to the tools and/or methods on which they were originally trained; and simple fear of the unknown. Lovecraft (1946) points out that “The oldest and strongest emotion of mankind is fear, and the oldest and strongest kind of fear is fear of the unknown” (Lovecraft & Pattee, 1946). Carleton (2016) addresses the “foundations of fear and anxiety as activated by unknowns perceived as anxiety-provoking ‘sources of potential danger’” (Carleton, 2016), suggesting that fear of the unknown is deeply rooted in our survival instinct. This offers a perspective on the core feelings of anxiety around change that have been expressed by some of the participants in this study.

The strategy itself is elaborated in Table 1, which presents the specific issues that emerged from the interview transcripts along with what the strategy aspires to achieve, and the likely benefits that might arise from a person who adopts this strategy.

Table 1 Relaxing a Grip on the Familiar / Allowing the New to Enter

Issues Addressed	Aspirational Pathways	Benefits
<p>Attachment to specific tools and methods that have worked for years, but that are no longer relevant to current industry practice.</p> <p>Bias toward the familiar</p> <p>Holding on to past ways in hopes of stopping the oncoming future</p> <p>Pressure from diminishing timeframes to meet rising expectations</p>	<p>Bravery</p> <p>Living as though no one is watching you</p> <p>Childlike spirit</p> <p>Exploration</p> <p>Playfulness</p> <p>Curiosity</p> <p>An open mind to new ways of working</p> <p>Humility</p> <p>De-centering of self (you're not the main event)</p>	<p>Increased confidence in one's creative/technical capabilities</p> <p>Increased resilience</p>

Each of these issues, aspirations and benefits can be tracked back to the interview transcripts. One participant mentioned bravery as an important attribute to have when taking the first step beyond the familiar. Perhaps the word she actually meant to use, however, was *courage*. Voigt & Dew (2023) clarify the distinction by pointing out that...

...there is a propensity to define bravery as being related to one-off type incidents, being physical in nature, and often undertaken as a spur of the moment or intuitive response...[whereas]...courage involves elements such as intentionality or freedom of choice, pursuit of a worthy goal, perception of personal threat or fear of a situation, deliberate intervention, and the willingness to take risks when the outcome is unknown. (Voigt & Dew, 2023, p. 2)

Yes, it is indeed courage that one often needs in order to let go of the old and to allow the new to enter one's practice. And the items that comprise Voigt & Dew's description of courage fall in line with many of the aspirations enumerated in these strategies for leaning into change.

“Letting go is a process of accepting change as a positive next step in life”, say Sherman and Cohn (2020, p. 1), who proffer their own set of strategies for releasing what is no longer needed, some of which include:

- Expressing gratitude – “When confronted with a crisis, think about what's good in your life to help you stay calm and centered. Reflect on things you're grateful for and thank those who support you. Expressing gratitude reminds you that you need to let go of only a part of your life.”
- Staying in the present – “When facing uncertainty, you easily can become anxious about the future. You might look for reassurance that your life will get back on track quickly, but you can't live in the future today.”
- Changing your vantage point – “When you're in the midst of a struggle, seeing the bigger picture can be difficult. Getting some distance from your crises and changing your perspective can help you emerge wiser and more thoughtful.”
- Deciding to let it go – “Things don't disappear on their own; you have to commit to letting them go. If you don't make this conscious choice up front, you might sabotage any effort to move on from this hurt. Making the conscious decision to let it go also means accepting you have a choice to let it go. Realising this can be empowering.” (Sherman & Cohn, 2020, p. 1)

These strategies, as well as those offered by this study's research participants, share the common threads of mindfully curating one's perception of, and approach to, change with the intention of attaining a level of serenity as a first step towards thriving. Vera et al. (2021) describe the concept of Professor Jane Dutton's “Flourishing Triangle” where the three conditions that contribute to thriving are: positive emotions such as serenity, joy, and gratitude; positive connections or relationships; and positive meaning (Vera et al., 2021). This shows the importance of self-awareness and self-acceptance, the latter of which certainly fosters self-confidence (Harris, 2011).

Participants pointed to the importance of carrying forward a spirit of exploration, curiosity, and a playful frame of mind as part of an essential toolkit for venturing out from the familiar into new terrains. Remaining open to spontaneity and other playful qualities, such as imagination, sociability, humour, and wonder, is essential for navigating the seriousness of uncertain times,

says DeBenedet (2018), who reasons that “when one [...] is open to experience, that person is more likely to be spontaneous in his or her daily life. With spontaneous activity, one’s mind naturally becomes more psychologically flexible toward and comfortable with the unknown and unexpected” (DeBenedet, 2018, p. 168). Playful approaches are being integrated into higher education programmes as a way to develop resilience (Heljakka, 2023) and as “a means of freeing up thinking, opening new channels, confronting obstacles and reframing persistent challenges” (James & Nerantzi, 2019, p. xiv). Indeed, the concept of adult play and playfulness is considered as an opportunity for transformation, part of which is that through play we discover the patterns and principles that create a sense of coherence in our world (Gordon & Esbjörn-Hargens, 2007). Coutu argues that “Resilience is a reflex, a way of facing and understanding the world” (Coutu, 2002, pg. 54) which has been a foundation for understanding how to deal with change (Rifkin, 2022). It would seem reasonable that if a person has a more coherent understanding of their world then the journey to become more resilient would be easier.

Another issue included in the Relaxing a Grip on the Familiar / Allowing the New to Enter strategy is the pressure from diminishing timeframes to meet rising expectations. At first glance, the connection of the issue to this strategy might not be readily apparent. What does time pressure have to do with the journey from the familiar to the new? The issue of time pressure that was raised by participants in Section 4.1.1 – Theme 1: *Faster, Cheaper, More Complex, More Competitive*, resonates with my own experiences in this regard, one which I’m confident that other screen practitioners also share. The experience of being asked to generate more content per day yet being given less time in which to do so, provokes a handful of reactions. These include resentment for being pushed to rush; the feeling that my craft is being disrespected and minimised through being compelled by the time restraint to achieve a lower level of quality than I would consider minimum (i.e. compromising); and a deep sense of dread from the knowledge that the sub-par outcome will be on screen “forever”. The audience will be unaware of the time constraint imposed on set but will likely notice the less-than-top-notch quality of the visuals. Hence, being asked to rush into unfamiliar territory summons the certainty that the outcome will not meet the quality level expected of professional work. And therein lies the connection between being given half the time to do twice as much and relaxing one’s grip on the familiar. If I’m being ushered into the unknown, at least give me the time to get my bearings and to figure out how to do a halfway decent job. Otherwise, I’ll want to return to familiar territory so that I may have a better chance of succeeding.

Upon reflection, the theme underlying most of these issues can be seen as the fear of failure. This will be discussed in more depth in Section 5.3.4 *Befriending Risk*, but it applies here with respect to the failure to meet quality expectations. I would argue here that if we can increase resilience in general, then it becomes easier to move past the fear of failure. Certainly, research has shown that the inverse is also true: that an increased fear of failure leads to lower resilience (Martin & Marsh, 2003).

Given this analysis of the strategy, which has shown that not only has it been used effectively in practice by the participants in this study but that there is also support for the potential benefits in a range of studies, the question that faces educators is how to the student might develop sufficient conversance with this strategy during their education so that they don't need to learn flexibility on the job in a way that is perhaps damaging. It is impossible to recommend any general strategies that will work in all cases. I will therefore focus on what will work within my own teaching practice and invite other educators to use these examples if appropriate.

As participant SE-11 and SE-12 point out above, in the section about the ramifications of greater accessibility to tools, many students acquire their own cameras prior to or during their screen education and use them to learn independently. This comes with an equal measure of benefits and drawbacks, as discussed by the participants in the above referenced section. For the purposes of this discussion about releasing attachments, one of the challenges involved in student camera ownership is the tendency to form a bond with the tool and a reliance on habits that they develop on their own. This complicates their ability to learn other methods and other tools, and they often resist venturing outside their comfort zone. Could one solution be as simple as requiring students to not only use different cameras, but perhaps to rethink the entire concept of screen and moving image in different ways? For example, Gilbert (2020) has adopted such a strategy through the use of pre-cinematic devices in an animation course and reflects on this by saying:

By having students experiment with building zoetropes and similar devices, I learned that students get a very real sense of the possibilities and limitations of the illusion of movement – the properties of animation – and in doing so they internalize as an empathetic journey the aspirations of pre-cinema's inventors. This empathy from encountering physical objects raises an interesting question: have the eyes of this generation of animators and filmmakers become so acclimated to screen-based content

that these pre-cinematic devices seem new? Zoetropes and other pre-cinematic optical devices seem to have this renewing potential in our digital age. (Gilbert, 2020, pg. 56)

Whilst pre-cinematic devices may be limited in a wider screen context, certainly there is the potential to take this idea and reframe it, for example introducing students to analogue cameras or introducing them to a new camera system with each screen project. At my institution, there are between four and six projects per year, which provides ample opportunity to include such changes. Whilst these ideas are still entirely speculative, there is potential to try and avoid attachments occurring simply due to ubiquitousness of mobile phones.

Let us also consider the fear of failing to meet quality expectations for a given piece of work. Assessment standards can certainly be changed to promote the acceptability of prototyped work by shifting focus to the process of production rather than the outcome, or at least introducing more formative assessment events (Sadler, 1989). There are examples of educational programmes that embrace playfulness (Connor et al., 2015) and the case has been made that assessment standards in screen education can be improved (Powell, 2002). In some ways, the idea of allowing students to fail so they can succeed (Hadley, 2007) can be applied here, or more specifically to allow them to fail safely, strategies for which include “fewer graded assignments, a flipped class environment where students work on application of knowledge on their own or in groups and receive in-person feedback before a more formal assessment, or allowing students to revise and resubmit previous attempts at assignments” (Naxer, 2016, p. 58). There will be more discussion around the notion of *creative failure* in the upcoming section on Befriending Risk.

5.3.2 Facing the Future by Focusing on the Present

Concern was expressed that repeatedly spotlighting to students the need to be prepared for a changing future is in itself causing anxiety and possibly lowering students’ self-efficacy. The participant suggests redirecting students’ attention away from reaching for the bar of high technical proficiency in an uncertain future and focusing instead on the present moment in which they concentrate on the strengths that they currently have. This will lay a foundation of self-understanding and confidence on which they can steadily build their skills, one at a time. As they add layers to their existing strengths, their confidence builds accordingly, fuelling further development. The desired outcome here is a greater sense of both creative/technical proficiency and self-efficacy as they learn, through the accumulation of small successes, to see themselves as capable, creative technicians.

For educators reading this research, there is nothing groundbreaking in the above description of scaffolded skills development; it's teaching-and-learning 101. What is worthy of a second look, however, is the contextual shift from learning that is focused on skills application in a future work scenario to mindfully building skills with attention focused fully on the present moment. The idea is to de-pressurise the learning environment, particularly for those students who experience anxiety, by de-emphasising the long-term outcome in favour of focusing fully, in the present moment, on form, execution, and artistry.

Table 2 Facing the Future by Focusing on the Present

Issues Addressed	Aspirational Pathways	Benefits
Change anxiety Continued pressure to prepare for change Low confidence in one's own strengths and abilities Increased competition in specialist areas	Live in the moment Consciously give up worry Do one thing at a time Ground oneself in strengths that are already present Self-inventory of skills and strengths; then develop them further before venturing out of comfort zone	Greater sense of self as a capable creative technician Increased self-efficacy

With origins in Eastern spiritual practice dating back to Buddha, the practice of mindfulness has gained popularity in the West over the last three or four decades, and has been incorporated into a variety of practices, from football coaching (Gilbert et al, 2024) to cancer nursing (Arthurs, 2014). Zerbo et al. (2017) defines mindfulness as “a state of mind that appreciates the flow of consciousness in real time and with acceptance [...] a state that allows all thoughts to rise and fall away while one attends to them ‘behind the screen’ with curiosity and a nonjudgemental attitude” (Zerbo et al., 2017, p. 3). Its educational applications have also been the subject of research in areas that include teacher training (Jönhagen et al., 2024) and surgical education (Anton et al., 2021), and has been found to be a valuable tool for regulating emotions including anxiety stemming from uncertainties around employment (Jacobs & Blustein, 2008).

Concern about the “medicalisation” of mindfulness has been expressed by Divino (2024), who places it among contemplative practices that have been commodified to the point of having diverged significantly from its roots as a meditation tool. Divino asserts that “The development of mindfulness has been influenced by the sociocultural context of neoliberal and capitalist societies, resulting in a model that fosters self-regulation and emphasizes social control” (Divino, 2024, p. 125). Masuda (2014), while less condemning of the Western brand of mindfulness, questions whether cognitive behaviour models based in mindfulness and acceptance can be applied equally to different global regions and cultures, and if not, he ponders what modifications might need to be made to their original iterations to enable a broader array of people to derive benefit from them (Masuda, 2014). By extension, this question might also be asked about the possible need to translate the terms of Western mindfulness into messaging that resonates with the cultures of screen students today and tomorrow. Future research might explore ways to convert the frames of reference through which cognitive behaviour models such as mindfulness view the world in a way that would have impact on the responses to change of screen students and screen practitioners alike.

Relevant to this research are applications of mindfulness methods that reside within the domain of mental skills training. These techniques are focused on supporting individuals and teams “to achieve optimal levels of performance through skilled management of stressors inherent to high-stakes endeavours” and is “based on the premise that task mastery and performance can be enhanced by specifically addressing the psychological state of the individual, improving self-knowledge and confidence, and providing discrete tools for the emotional and physical regulation of the stress response” (Anton et al., 2021, p.8). The methods involve developing awareness of, and regulating emotional responses to, internal and external stimuli, as well as involving “mental imagery, mental rehearsal, refocusing strategies, goal setting, and performance mental routines” (Anton et al., 2021, p.8).

Mental skills training is one flavour of systems that support mastery through mindful focus on the present moment. There is a poignant ring of relevance to LeBlanc’s (2018) observation that “The narrative that is being put in front of too many people on our campuses is a ‘change or die’ story that breeds anxiety and a resistance to change. There is instead a ‘change and thrive’ narrative that is equally valid but too rarely told” (LeBlanc, 2018, p. 26). Facing the Future by Focusing on the Present as a strategy is given strong potential with the incorporation of

mindfulness techniques as a conscious component in a screen curriculum, particularly in today’s increasingly VUCA world.

One possible way the educators might approach this might be to gamify the achievement of milestones that are scaffolded in very small increments. Concentration might be more readily focused on the task at hand and each achievement would be a small win. There is evidence that gamification can mitigate risk aversion (Melo & Soares, 2024). And it would add fun to what might otherwise be an expectation that the student feels pressure to meet.

5.3.3 Supporting the Inner Person

As a strategy for leaning into change, Supporting the Inner Person is an umbrella phrase for a collection of personal stances that collectively share the load of inward-facing care and maintenance. This contrasts with the other Theme 3 strategies, all of which relate to the manner in which one connects to the world. This strategy looks within and is more focused on defining and nurturing the self.

Table 3 Supporting the Inner Person

Issues Addressed	Aspirational Pathways	Benefits
<p>Higher demands for increased output leading to disappointment over having to compromise the high quality of work that they have been trained to achieve</p> <p>Heartbreak over the increased favouring of efficiency over artistry</p>	<p>Live in the moment</p> <p>Consciously give up worry</p> <p>Do one thing at a time</p> <p>Ground oneself in strengths that are already present</p> <p>Self-inventory of skills and strengths; then develop them further before venturing out of comfort zone</p>	<p>Greater sense of self as a capable creative technician</p> <p>Increased self-efficacy</p>

The oft heard wisdom to the effect that “change is a reality, and you’ve just got to get learn to adapt to it” overlooks the difficult initial process of acceptance, as Morgan (2019) points out in the section on Industry 4.0 of the Literature Review. I have discussed above the notion of relaxing a grip on the familiar and allowing the new to enter, addressing such issues as fear of the unknown and having the courage to let go. The act of taking these steps in the process of

acceptance is one that is often easier than it may sound. The connecting strategy element here also concerns accepting change but is couched in a slightly more active voice. Moving beyond merely allowing the new to occupy a seat at the table, this strategy element is about the process of proactively inviting acceptance of change, particularly change that is externally imposed. To invite external change is to reframe one's interaction with it from a passive to an active engagement. Rather than seeing oneself as a being on the receiving end of change, this approach now makes a conscious choice to accept it, in accordance with the maxim to act "as if" (Vaihinger, 2021).

Acting "as if" begins with a fiction one constructs about an aspect of the world around them independent of their perception of it, essentially pretending that it is so. Acting "as if" can be seen as a seed for change in the sense that much of human-created deliberate change begins as an idea, as a seed. Here, the "as if" change occurs internally, wherein the concerned party acts *as if* they accept the changes occurring in their world. Much in the same way that smiling has been shown to influence both the happiness and the physical health of the smiler (Cross et al., 2023), so inviting acceptance of change is the necessary seed to begin the acceptance process. It is effecting change from the outside in.

In a classroom or a learning-studio setting, this could take the form of monthly mini-sessions wherein each student brings an image of the perfect world that they choose to envision, which they then briefly describe. The repetition of self-affirming phrases has been used in learning settings to positive effect (Powers, 2024; Temnitskiy, 2022). The addition of images both reinforce the visual nature of screen learning and also create a visual goal in the student's mind.

Vital to maintaining a deep and sustainable capability for acceptance of continued change is an understanding of self. The knowledge of and connection to one's own core values and beliefs is the ballast that anchors one against the swiftly changing tides around them and provides a stable foundation for a sense of agency in the world, as Laukkonen et al. (2018) point out. "A sense of agency can be a powerful way to mitigate the harmful effects of VUCA. If one has values, beliefs, and goals that help to constrain the myriad possible actions and options, and has the sense that they are free to act according to them, then one may be less likely to experience uncertainty as threatening" (Laukkonen et al., 2018, p. 17).

Part of a course I teach called Professional Development guides students through the process of creating a portfolio website that includes their CVs and samples of their work. As part of the

preparation to create the About Me page on their site, I lead them in a discussion about the importance of having a set of personal values as a creative practitioner. They then each create a Google Doc on which they list and briefly discuss the values that they hold. This later gets distilled down to a sentence or two on their About Me page in which they describe their values as screen practitioners. Many of them had not previously considered their value set, and I've seen some students come away from the exercise with a stronger sense of themselves as they realise that there are values that they stand for. In that they only do this once, this sense tends to fade. But if repeated for its own sake or as part of a larger assignment, as with this example, there's a chance it might become more embedded in their overall self-perception.

A related aspect of self-knowledge worthy of inclusion in the Supporting the Inner Person strategy involves ensuring that the practitioner's sense of self does not become enmeshed in one's occupational identity (Maxfield, 2021). This extends to students as well, particularly as regards navigating the sometimes mercurial balance between individual identity and shared collective identity (Kreiner et al., 2006). Toward this end, having one's own creative practice, as does SE-14, is one method of reducing dependence on their screen job. By channelling creative energy through another more personal outlet, the practitioner also supports their inner person and lifts their self-confidence by doing something for themselves that they enjoy, and which is solely their own domain.

A grounded understanding of self that provides a foundation for genuine confidence in one's abilities is an important element for screen students to focus on early in their journey, enabling them to develop habits of mind that will continue to stabilize them as they venture forth into the dynamic environment of screen.

5.3.4 Befriending Risk

Several participants discussed risks they had taken that resulted in sometimes unexpected outcomes which led them to where they are today. Some also expressed concern about the tide of risk aversion sweeping through much of today's student culture. Risk-related stress amongst students, besides likely having significant roots as a post-pandemic trauma response, can also be partially attributed to anxiety around the swiftness of change that pervades daily life; fears of an uncertain future; the repeated emphasis about the need to be prepared for that uncertain future; and the pressure to perform successfully in their education in order to gain careers in a creative economy that is precarious at best. This all adds up to the mounting fear of risk that the participants (and I) feel so palpably in today's students.

The need for a strategy that addresses risk is supported by Nørholm Lundin’s (2023) observation that “being able to deal with these emotions, or not, decides who is able to continue playing the game and who is not” (Nørholm Lundin, 2023, p. 242). Whilst this is jumping ahead a bit from the student experience, these comments point to the importance of de-stigmatising risk, particularly creative risk, for the screen student.

This strategy entails flipping the risk narrative around so that rather than fearing and resisting creative risk, one embraces the possibilities that creative risk can bring.

Table 4 Befriending Risk

Issues Addressed	Aspirational Pathways	Benefits
Fear of failure Fear of the unknown Fear of being left behind Low self-confidence in one’s strengths	Seek to attain states of gratitude and of optimism Find excitement in new things Consciously decide not to worry Resolve to not give change so much power ”Change is just change. And life is change. Bring it. We’ll handle it when it gets here.” Know if and when it’s time to jump to the next thing	Rather than focusing with a fixed gaze on ‘successful’ outcomes, elevated states of gratitude, optimism, and excitement may be attained from simply doing the work itself.

In the context of creative education, which includes screen, taking risks creatively can become just as scary as taking more existential risks. As mentioned above, the root cause of risk aversion can be easily linked to the fear of failure.

The fear of failure has been acknowledged as a source of significant anxiety for many students (Eckstein et al., 2023). Whilst creative risk-taking is often encouraged in tertiary creative industries programmes, the fear of failure often speaks with a louder voice in the students’ minds and can drive them away from making innovative choices (Scott, 2024). The pressures students place on themselves to perform well academically, coupled with the prospect of

disappointing their lecturers and families, and embarrassing themselves in front of their peers, contribute to creative inhibition (Eckstein et al., 2023).

Combatting the often paralysing effects these fears can wreak in the creative arts student is the growing acknowledgement of creative failure (also described as productive failure) as an important tool for “fostering a creativity mindset in the classroom” (Mills and Watson, 2021). Taking a page from the agile software development field, where “failing fast and learning from your mistakes are ingrained in the culture” (Mortensen and Younas, 2023, p.71), many educators are endeavouring to create classroom cultures that support students to develop “confidence and competence in creative risk-taking” (Choi et al., 2019, p.73). “Without substantive learning experiences that include creative risk taking and failure, students will be limited in their thinking, acting, doing, and making in an era of change that requires creativity and innovation” (Henriksen et al., 2021, p. 605).

Eckstein et al. (2023) make the case for developing a “pedagogy of failure” (Eckstein et al., 2023) and Choi et al. (2019) stresses the importance of an open and playful learning environment “where students can feel safe to fail fast and try again” (McWilliam, 2009; cited in Choi et al., 2019, p. 87). Meanwhile Creely, et al. (2021) stresses the importance of “developing the capacities of teachers to help their students to be creative risk takers and to learn from productive failure” (Creely et al.,2021, p. 1). In order for such capacity development to occur, however, both teachers and educational leadership must be onboard to support this shift. “Only leaders can create and reinforce a culture that counteracts the blame game and makes people feel both comfortable with and responsible for surfacing and learning from failures” (Edmondson, 2011; cited in Mortensen & Younas, 2023, p. 79). A leader who understands this approach can let it ripple out to the whole organisation. “A playful attitude might even benefit organizational culture further in terms of social wellbeing and connectedness” (Mortenson and Younas, 2023, p. 81).

Eckstein et al. (2023) have gathered a number of suggested strategies for creating a failure-friendly culture in education (Eckstein et al., 2023). Whilst they don't mention screen specifically, there are a plethora of opportunities in screen to explore this approach. One application might involve an occasional session where the students create a “failure sandwich” in which creative failure is welcomed into the learning environment. In one possible scenario, the student sets themselves two tasks at which they know they will succeed, and one at which they fully expect to fail, most likely being very ambitious versions of the other two. The

“failure” task is sandwiched in between the “success” tasks. This could be engaged in with any exacting screen-related task, from writing a simple scene to focus-pulling.

By befriending risk and welcoming creative failure, the screen student is better placed to find joy through experimentation and in the execution of craft. All but one of the aspirational qualities that underlie this strategy are desirable states of mind that the screen student might be guided to attain as part of a learned and practiced mindset that displaces risk aversion.

5.3.5 Wearing Many Hats

The ability to fill a variety of roles in screen production and/or post-production was identified by the participants as being critical to maintaining a sustainable screen career. Three types of flexibility were discussed: 1) possessing sufficient skills to work in different departments on set, as FIV-2 has found; 2) being proficient in multiple roles within a given discipline, as FIV-1 has used to his advantage; and 3) becoming a cross-disciplinary multi-specialist, as SG-17 does with his portfolio career.

The following strategy encapsulates the participants’ support for the importance of flexibility.

Table 5 Wearing Many Hats

Issues Addressed	Aspirational Pathways	Benefits
Fear of obsolescence due to phasing out of narrow specialisations Increased competition in specialist areas Fear of being left behind	Get a variety of experience Work in different departments on set Hold different kinds of jobs – screen and non-screen Become multi-skilled, valuable for filling different needs Build a portfolio career	Greater understanding of how parts contribute to whole Become more valuable when able to fill different needs as they arise Portfolio careers spread the risk across multiple roles

A working film set relies on a complexity of interweaving relationships between specialist roles. To work in this environment, one needs a basic grasp of what each department

contributes to the whole as well as a functional understanding of the ways in which each department both supports and depends on the other departments. To perform optimally in any screen role, however, one must develop a more nuanced understanding of the interrelationships between specialist roles. Once the fledgling screen practitioner attains an awareness of these aspects, they should theoretically be able to serve in any specialist role for which they have the requisite skills. Of course, how they use this awareness to integrate with and contribute to a working team is where the rubber meets the road, involving a combination of professional, specialist, and social skill sets, some of which can be trained for and others that are best developed in practice.

One method for fostering this intradisciplinary understanding can be achieved by a common first year in screen programmes in which the entire cohort is immersed in all specialisations before specialising in subsequent years, as is the case in the screen programme I work within. Throughout the three-year bachelor's degree, the number of specialisations the students study progressively narrows down each semester until they are getting deep knowledge in their specialisation of choice in their final year. Throughout the programme, the students apply their theoretical/creative/technical training on a variety of screen projects that model professional production methods and protocols. On these projects, they are rostered into crews in different roles, according to their specialist training. By the end of the programme, they have served in most screen roles on a variety of project types.

We have found that the more rigour with which students engage in each of the different specialist roles, the more holistic is their knowledge of the entire process. This greatly strengthens their ability to perform each individual role, as well as enhancing their on-set communication and collaboration prowess as proactively contributing members of a team. Conversely, those who modulate their energy and engagement according to the degree to which it serves their (perceived) specialist interest come away with a narrower understanding of the broader process of which their chosen specialisation is an integral part.

The importance of wearing more than one that is supported in the Literature Review by Epstein (2019) who posits that the broader the variety of knowledge areas one has, the better one is supported to transition between changing roles, by Munnelly (2022) who discusses the importance, particularly in these volatile times, of being able to work across different but related disciplines in order to spread the risks inherent in single-specialisation focus, and by Byun & Raffiee (2023) whose research reveals that when workers lose their jobs, those with

more generalist skills are more apt to find subsequent work than those with single specialisations.

The connection of this description with the Wearing Many Hats strategy is to support the participants' assertions about the value of working in a number of departments in order to maximise one's value in any one of them, particularly in one's chosen specialisation. Further, considering the shrinking of crew sizes, described in both the Literature Review and in the Results chapter, the more roles in which a screen practitioner is skilled, the greater is their flexibility to find work where opportunity presents itself and not be pigeonholed by specialist knowledge that is too narrow.

Some screen practitioners spread their skill base vertically, able to provide service at different workflow stages within a given discipline. Such is the case with post-production sound engineer SG-18, who describes his ability to work in various capacities including dialogue editing, mixing, and Foley artistry. Each of these are jobs that have, in the past, been accomplished by a single-specialisation technician, which on large scale productions, is still the case. However, with the increase in content and the decrease in budgets, multi-skilled SG-18 can go where the need calls him.

Other screen workers derive horizontally integrated income streams. SG-17 stays busy in roles that span a wide range within screen, including Cinematographer on small to medium scale independent projects; first assistant camera, or lighting assistant, on larger narrative projects; and full (go-to-whoa) production services (writing, directing, lighting, shooting, editing, and packaging) for corporate clients. His portfolio career is all within the screen domain and he enjoys the variety as well as what he experiences as the reduced precarity of spreading the financial load across a spectrum of clients and job types.

The flip side of the Many Hats argument is that some levels of screen work, particularly the larger-scale, higher budget international productions, seek out only the most highly skilled single-specialist crew members. SG-15, who works on streaming series produced by the likes of Netflix and Amazon, was a second assistant camera person for five years on these US-based shows before becoming a first assistant. He is lucky and skilled enough to have a client base who provides him with a decent enough income, and he does not currently need to (nor would it be advisable for him to) wear more hats than just the one.

5.3.6 Finding and Being Yourself

This strategy emerges from the participants’ responses to the creeping corporatisation of both the screen and the education industries. Participants who have been in the game for a while are disillusioned by what they experience as the steep diminishment of craft, artistry, discipline, and creative enquiry, and the rise of an economically driven industriality and depersonalisation across both screen and educational practice. Also addressed in this strategy is the inevitable anxiety faced by screen graduates who will enter an industry with a growing number of people who are after the same opportunities as they are. This strategy addresses the need for students to identify and develop their own individual approaches to their practice in order to make a unique contribution to their craft as well as to distinguish themselves amongst a growing crowd of competitors.

Table 6 Finding and Being Yourself

Issues Addressed	Aspirational Pathways	Benefits
<p>Prioritisation of efficiency over artistry and the rise of employer-centrism in screen education both leading to a sense of diminishment of individuality and of the importance of creative expression; the rising self-perception of being a cog in a large wheel</p> <p>Increased competition in specialist areas</p>	<p>Develop your own style</p> <p>Find your point of difference, your own unique voice</p> <p>What do you have to say?</p> <p>Write what you know</p> <p>Shed some light on yourself</p> <p>Let people know you’re here and put your work out</p> <p>Never get comfortable – just keep driving forward</p>	<p>Greater self-knowledge</p> <p>Clarity of focus around your mission and what you have to offer</p> <p>Bringing others’ awareness to your work</p>

This strategy represents a small collection of participant-shared thoughts aimed at focusing conversations with students around identifying and staying true to their own artistic voices. The ideas captured within this strategy are guidelines that participants have found valuable in their responses to change in their own practice, and which they regard as important to take onboard for those who are on the journey toward careers in screen. It is hoped that they may become helpful as signposts, as handy reminders to periodically point the aspiring screen

practitioner toward the important things to hold onto as they cultivate, maintain, and promote their individual voices as makers of screen content.

Participants report that in the domestic screen sector, which includes most small to medium sized local productions, budgets and schedules have shrunk to a point that provides for only the bare minimums required for efficient generation of content. This top-level focus on economic efficiency and maximum output of content leaves little time, resources, or energy for creative expression.

A few participants mentioned fear of the incursion of AI into the production process as being a nagging threat, certainly to jobs themselves, but before that, to the idea of individual expression in the creative execution of one's screen role. This is supported in the Literature Review which discusses a number of specific instances in which AI is indeed being integrated into various stages of the production process (Glick, 2024; Holliday, 2024; Kadner, 2024b). However, thought leader and digital innovator DMIP-4 finds reassurance in the fact that AI will never replace the individual expression of creativity.

In the education sector, participants are experiencing the dwindling of support for creative programmes overall, and for screen programmes in particular. Examples given include the reduction of administrative staff, leaving educators to look after the considerable complexities of academic administration, which takes time away from their academic responsibilities; and the disappearance of funds that were once available for such things as guest lecturers and class trips to the cinema to see exclusive film screenings.

Further, as the focus of creative education has shifted to a more employer-centric orientation, the nurturance of individual cinematic artistic expression has taken a back seat to training employable film workers. This has left screen educators - most, if not all, of whom originally signed up to teach film as a way of sharing their love for the form - searching for ways to keep that torch burning amidst the high winds of economic drivers.

A possible implementation to facilitate students in identifying and staying true to their visions might be to ask students to identify aesthetic elements that they resonate with in their respective specialisations. Within each specialisation, they would all be given the same provocation which they would then be called upon to manifest employing the aesthetic elements they had previously identified. Naturally, if, in the process of creation, their creative intuition takes them another way, the student would be fully welcome to follow it. Once complete, they would

exegesise their process, connecting their choices to their developing personal sensibilities. In this way, they would name and legitimise their choices as creative practitioners. If practiced routinely, creative momentum could carry them into empowered recognition of their artistic voices.

5.3.7 Connecting with Others

Participants highlighted the importance of cultivating meaningful connections with people in one’s sphere of activity as a strategy for coping with and responding to change. There are both practical and emotional benefits to having a support network. It is vital to stay connected to one’s support network as part of a strategy set for responding to change.

Table 7 Connecting with Others

Issues Addressed	Aspirational Pathways	Benefits
Isolation, loneliness Perception that others aren’t aware of your strengths, of what you have to offer Disconnection from your community of practice	Reach out to friends and colleagues who support you Keep up collaborative relationships Engage in creative collab-orations Don’t feel limited by geography Expand your network / client base Join industry associations Go to their events	Confidence in self as a communicator Self-perception enhanced through being reflected in others’ responses Appreciation of one’s own creative / technical contributions in a wider context Sense of self as part of a wider community

Support networks can include groups of like-minded practitioners who engage in creative collaborations; industry associations, who keep the bar of creative/technical quality standards high; and communities of practice, being assemblages of people gathered around one interest or skill set to share information and support one another to improve the craft. In the Literature Review, I discuss the mixed results that communities of practice have had in the freelance world. There are a number of challenges associated with CoPs meeting in physical space, leaving the online option, which, while valuable in terms of content, does not provide the human connection so important in these often disconnected times.

The emotional value of human interaction in uncertain times cannot be overstated. The participants emphasised that in addition to establishing support networks, it is also vital to actively maintain them, keeping the connections alive by continuing to engage with network members. This sometimes requires reaching out to interact with others in the network or to participate in an event. Occasionally, the moments when a person is most in need of their support network are the times when it is most difficult to reach out. But it is important to “push through the pain”, as one participant said, in order to connect. Another participant related that there is always something beneficial taken away from interaction(s) with their network.

Careers in the screen industries, which today are based on freelance work, are heavily, if not entirely, reliant on connections between people. In addition to their value as vehicles to fine tune the practitioner’s networking proficiencies, as well as to expand awareness of their name in the context of their specialist mastery, support networks can also lead to extension of one’s client base, even connecting them directly to jobs. The maintenance of various support networks is, therefore, an essential life skill for screen practitioners. As discussed in the Literature Review, Hoedemaekers (2021) highlights the importance of creating connections as a way of creating “stable working relationships and additional work commissions” (Hoedemaekers, 2021).

Another component of my Professional Development course involves the students becoming acquainted with the industry organisations that support their specialisation. In New Zealand, this includes the various guilds and societies, such as the Directors and Editor’s Guild, New Zealand Writer’s Guild, New Zealand Cinematographers Society, and the overarching Screen Industry Guild Aotearoa (formerly known as the Techos Guild). There are also support organisations such as Women in Film and Television, the Pan-Asian Screen Collective, and Ngā Aho Whakaari (promoting Māori voices and stories). In preparation for their group presentation on each body, they are encouraged to join one (most of them have student memberships) and to attend at least one or two of their many seminars, workshops and networking events. In this way, they are becoming familiar with a community of practitioners who are doing what they want to be doing, and also getting their name and face out into the world of practice. This is one possible method of implementing connections that are such a vital part of the screen industries.

5.3.8 Changing the World

Participants spoke of their commitment to creating screen work that results in positive outcomes in people’s lives. They describe a trend, particularly amongst “the younger generation”, to take charge of change by using communication tools such as screen platforms to make an impact on global issues. This strategy can be effective on two ways. Using one’s creative/technical skills and talents to create screen work in the domain of digital advocacy can not only increase one’s sense of purpose and connection to the world but also offers potential on the personal level to ease a portion of one’s anxiety, so rampant today, around the multiple existential threats to humanity.

Table 8 Changing the World

Issues Addressed	Aspirational Pathways	Benefits
<p>Anxiety over existential threats to humanity.</p> <p>Prioritisation of efficiency over artistry and the rise of employer-centrism in screen education both leading to a sense of diminishment of individuality and of the importance of creative expression; the rising self-perception of being a cog in a large wheel</p>	<p>Using your skills for good, to help other people.</p> <p>Find an issue that’s important to you and create work to advance it.</p> <p>Use your creative/technical skills and talents to make an impact on the world.</p>	<p>Work satisfaction that is deeper than the satisfaction attained from achieving financial success</p> <p>A sense of higher purpose in the applications of screen talents and skills.</p> <p>Greater sense of connection with the world.</p> <p>Increased self-efficacy</p>

The value that students can derive from creating impactful screen content has been touched on in the Literature Review. Smilan (2023) and Bentz (2020) argue that it is the responsibility of the arts educator, of which the screen educator is a subset, to ensure that students understand the power of the creative tools they are learning to effect positive change. Using screen work to engage with the world and to address issues such as climate change, which are among the sources of anxiety so pervasive today, is a gift.

One possible pathway screen educators might consider to encourage screen students in this regard is to run a documentary module. Guest lectures by established documentarists, viewing

of key documentaries about local issues, and the planning and shooting of a documentary are ways to get students involved in the world beyond their phones.

5.4 STRATEGIES SUMMARY

The above discussion explores many of the responses to change that were shared by the research participants. I have thematically organised their responses into “strategies” for coping with, reframing, managing, and leaning into the multiple changes in the screen landscape experienced by the participants. I have addressed the strategies’ connections to both the relevant literature and to the first two themes, in which the participants discussed their lived experience of change in screen production and in screen education and the challenges they presented.

5.5 REFLECTIONS ON SCREEN EDUCATION AND CHANGE

The first two top-level themes that this research has generated encapsulate, in the broadest sense, the common challenges faced by those who work in, or in support of, the screen industries in New Zealand.

The participants described their experience of screen as having become Faster, Cheaper, More Complex, and More Competitive.

They have also been processing their own experience of the Blurring Lines, Changing Values, Evolving Needs, and Shifting Roles that are emblematic of the ongoing changes at the heart of the screen industries.

The outcome of the interviews in this research provides a clarifying cross-sectional set of answers to the first part of the Research Question, which is: How have people who work in support of New Zealand’s screen industries experienced change in these industries?

The Thematic Analysis undertaken on the data set, which culminates in the strategies for change that rise out of the third theme, Leaning into Change, addresses the second part of the Research Question, which asks how the lived experience of change in screen can be used to promote greater adaptability amongst future screen practitioners.

The analysis identifies three main approaches to change that can be taken to help come to terms with the steady flow of ongoing transformation that now characterises the screen industries.

Each approach will likely be contextualised in one way by those who have already been working in support of screen and in another way by those who are just entering it.

The first approach, *Finding Pathways to Acceptance*, invites the aspiring practitioner to acknowledge and reconcile with the fact that many aspects of screen are now in a permanent state of flux. The experienced screen practitioner, supporter, or educator will benefit from letting go of what they've known to be true and of methods that they've known to have always worked. Many of these truths and methods that they've come to rely on are no longer in play, so allowing themselves to release the old will enable them to begin accepting, even welcoming in the new. For screen students who are just about to enter the industry, developing habits of mind that incorporate flexibility and openness to change can help to set them up for success as they set off into the white waters. It is recognised that for some, particularly those for whom change is accompanied by great anxiety, strategies such as *Facing the Future by Focusing on the Present* and *Supporting the Inner Person* could be helpful in easing the stress around change.

The second approach, *Being a Work-in-Progress* involves learning to see oneself as in a state of continual growth and development. By shifting one's perception of self from static to mutable, from fixed to flexible, change becomes just another thing that occurs in a life's day. Easier said than done, of course, but it is a state to be aspired to. Framing oneself as a work-in-progress can allow a sense of child-like wonder to grow and the fear of the unknown to diminish. For once a person learns to let go of set-in-stone procedures, of fixed outcomes, and of the idea that they will ever be "done" growing, the greater is the chance that they will become more open to surprises, more comfortable with risk, and more welcoming of failure as a tool for growth. They will be better suited to experience their own unique inner qualities as the elements that define their strength, and will be less apt to cling to the belief that their strength as a practitioner lies solely in the technical skills they possess. Naturally, the ability to attain the states mentioned here in the second approach are predicated on a certain degree of self-knowledge, which might be enhanced through re-engagement with such first-approach concepts as *Facing the Future by Focusing on the Present* and *Supporting the Inner Person*.

The third strategic approach to change, *Spreading Wings*, is about stepping forward with confidence in one's own capabilities and uniqueness and diving into change as one dives straight into an oncoming ocean wave. This approach is expansive and it is connective. It challenges the aspiring practitioner to go out into the world and connect with individuals, such as other practitioners, and with groups, such as industry organisations. The sense of connection

with the world invoked by the Spreading Wings approach also can be reflected in the desire to use one's skills in moving image storytelling to help make the world a better place, to "have an impact", as one participant has said.

So the progression is from acceptance of change and the release of attachment to what is no longer applicable, through the adoption of a work-in-progress approach to one's life and one's craft, and culminating with an expansiveness and an acknowledgement of one's creative/technical role as that which contributes to the world.

5.5.1 Self-Efficacy

Another way of looking at this personal evolution is like a caterpillar transforming into a butterfly. It is the metamorphosis from the very internal self-evaluative process of acceptance, transitioning through the perception of one's self as being in continual development, and maturing to the external behavioural process of expansiveness and connection building. And the currency that is being nurtured and developed throughout this process is one's self-efficacy. Through incorporating an affective learning approach to guiding students through these strategies, screen education has the opportunity to provide a foundation of tools and methods that will enable them to better respond to the ongoing changes in the screen industries (Bertrando, et al., 2005). The resiliency that the strategies empower them with will be the life jacket they need to confidently and safely push off into the turbulent (but exciting!) white waters of 21st Century screen careers.

CHAPTER 6: CONCLUSION

This research was designed to gain an understanding of the lived experience of change in both the New Zealand screen industries and in the New Zealand screen education sector in hopes of attaining insight into ways in which screen educators might help their students to prepare for sustainable careers in a constantly changing screen environment. Through a triangulated exploration of change as experienced by people who work in various ways to support the screen industries, the objective was to identify some of the key issues that present themselves in the process of grappling with change in the screen sphere. Once an understanding of these issues was achieved, strategies were extracted for proactively engaging with change in screen in a way that at least mitigate the negative aspects of change, and at best, harness change in empowering ways.

6.1 CONTRIBUTION

In this research, I have captured challenges and opportunities presented by the ongoing evolution of screen and filtered them through the interpretative lens of my varied experience. As such, I have condensed my change-filled thirty years in the entertainment industry into a form that is useful for both practitioners and educators to read, interpret, and reflect on to improve their practices.

This research makes a unique contribution to screen education practice through the articulation of strategies aimed at transforming the change-anxiety experienced by many screen students into the development of high self-efficacy. Ultimately, this will result in greater inclusivity in screen practice and result in a richer and more diverse group of screen practitioners.

6.2 LIMITATIONS OF THE STUDY

The main limitations of this study are discussed in each of the following sections.

6.2.1 Distribution of Participants

The sample size of nineteen participants, whilst not small by some standards, was divided into five categories. Originally, the intention was to interview twenty participants with four in each category. Ultimately, due to some people dropping out and then re-joining, and others cancelling due to conflicts, the participant numbers were unbalanced across the categories. Appendix E: Interview Participants provides a count of participants per category. I don't

believe that this imbalance seriously disadvantaged the study but a more even distribution would have provided equal voice to the various perspectives.

6.2.2 Generalisability

I acknowledge that some of the responses were singular in nature, meaning that there were a few issues I identified in the coding process that were the only comment related to that narrow sub-topic. A small handful of them made it into the thesis. I made this choice with full awareness that whilst these excerpts compellingly fit into the themes and sub-themes, not all of them represented a shared experience vocalised by other participants; they were descriptions of singular experiences. Nevertheless, each of them did articulate a sentiment that I recognise as a situated researcher with a great deal of familiarity of the content discussed as representative of experiences shared by others in the industry, just not any of the other participants.

6.2.3 Analysis

I found Reflexive Thematic Analysis (RTA) to be a robust process of digging down to the core of meaning expressed across the dataset. I also appreciate its legitimisation of my own experience as having an equal seat at the interpretation table. In keeping with RTA's interpretative foundation, which was supported by my overarching methodological stance of Hermeneutic Phenomenology, I generated the themes and sub-themes based on several iterations of meaning distillation. Having gone through this detailed and labour-intensive process, I highly respect RTA as a meaning-making method. However, it is possible that its strength is also its weakness in terms of its ability to generate repeatable outcomes. It would be interesting, for example, to consider how a codebook approach using multiple coders might have produced results that might be considered more reliable by those with quantitative backgrounds.

6.3 FURTHER WORK

This study provided an introduction to ways in which screen education might enable students to build resilience and adaptability to ongoing changes. The suggestions for implementation were presented as concepts and offered only one version of what their practical implementation might look like; the versions that are within the scope of my own teaching. Each educator would need to devise methods to implement these strategies in ways that resonate with their own teaching. The thrust of this research was to identify and discuss the “what” and the “why”. To have imparted a set of detailed operational specifics (the “how”) as being “baked into” this

thesis would have been overly prescriptive and would have missed the point. The implementation suggestions that accompany each strategy here should be regarded merely as my “serving suggestions.”

I offer this series of ideas and approaches to my colleagues in the discipline in hopes that you may find some of them useful when building educational experiences designed to build capacity to understand and build resilience in order to not just withstand, but to embrace change within the sector.

So the next steps for this work would be for educators who resonate with this research to develop their own ways to implement the strategies for leaning into change. This form of affective teaching can and should be personal and is best applied according to the leanings and sensitivities of each individual educator. Anything less than that is in danger of becoming a boilerplate solution, which is contraindicative to the nature of this endeavour. Some aspects of this work will need to be developed in a bespoke manner for each student, whilst other aspects will be more effective in a group dynamic.

Prior to rolling it out on a full scale, micro-studies might be conducted to test the extent to which each strategy does, in fact, foster resilience and adaptability by raising students’ self-efficacy. This would likely be a longitudinal study that would track students as they progress into the professional world.

As mentioned in Section 6.2: *Limitations*, this study might be repeated with a more balanced sample across respective groupings and analysed using a code book approach with multiple coders. Additionally, as discussed in Section 3.3: *Participants*, future research could compare change responses across the different participant categories to identify more granular differences between them based on demographics such as age, gender, cultural background and time in the industry. To do so, however, would require a larger sample than was engaged in this study in order to gather sufficient data to make such comparisons meaningful.

There is an inherent challenge to the implementation of this research: its success depends on students who are willing to go through the processes discussed herein. On the face of it, these processes ask a lot of the students going through them. The more someone is willing to put into them, the more they will get out. If a student is unwilling, there will be little gained. So then are these strategies only for the willing? If yes, what is the extent to which they are “preaching to the choir”? Do the students engaging with these strategies constitute only a part of the overall

cohort? So the challenge here is to the educator who designs an implementation such that their entire cohort engages willingly in this work.

Another challenge lies in simply finding time for the educator to design and deliver such a module, or even to embed it in their teaching throughout the year. For this, as discussed in the Failure section of the Literature Review, support from academic leadership is a must.

A final note: Some of this work is a very personal process for each student and sometimes calls on them to dig deep to get to the source of their fears. Through my experience in creating and teaching course modules with similar intentions, I have found that some students are willing to “go there” but others can become very threatened by vulnerability. The work of taking students to these places and then shepherding them out into a lighter state requires a great deal of mutual trust - the students’ trust in the educator and the educator’s trust in the student. My most successful endeavours in this regard are when I had put myself through the process first, before the course began. Not only could I better inform the students about the nuances involved, but sharing my own self-evaluations that resulted from going through the process was modelling my own vulnerability, creating a powerful bond between myself as ‘facilitator’ and my students.

6.4 CONCLUSION

I embarked on this research journey mesmerised by the plethora of new technologies that were enabling amazing new creative possibilities to come to fruition and were changing the fabric of how we share stories through moving image media. What I secretly imagined that this research was going to reveal to me was the need to develop curriculum that synthesised the legacy skills of cinematic narrative convention with the affordances of the new technologies that hold the promise of new dimensions in visual storytelling. Mindful that the technology itself is beginning to alter the way screen stories are told, and that the rate of change around all of screen is accelerating exponentially, I thought that the research would point me toward ways in which we may capture this rapid innovation and change in a manner that empowered students to become the innovators and the change makers, but with strong cinematic technique behind them. I entertained the notion for a while that if we could apply the principles of agile software development to curriculum design, we might have a chance of keeping up with rapidly changing technology and the emerging techniques that the tech was giving rise to. So when I originally began enquiring into how peoples’ experiences of change can inform what is needed

to prepare students for future change, what I thought I was going to end up with was about skills and tools and perhaps a new cinematic language.

However, as I was proceeding through the research process, interviewing the participants in the study, a different realisation began revealing itself to me. All of this change that is transpiring in the lives of screen practitioners, screen educators, and, significantly, our screen students, is continuing to poke the invisible bruise of unpredictability about the future. This existential uncertainty leads to fear, which, in turn, generates anxiety. In my own screen courses, I can feel the anxiety grow wider and deeper within my students and former students each year, and I notice that my colleagues and I are spending more and more (unallocated workload) time each year in pastoral care sessions with them.

What has actually emerged from this research, based on the interview themes and my own experience, has brought about a perspective shift in my approach to teaching cinematography. Where previously, I saw it as my chief mission to impart the precision of craft and to facilitate the courage of artistry, I now understand that in today's world of VUCA, those skills and capabilities will need to be enfolded within each student's developing sense of self-efficacy. I thought I was looking for new skills, tools, and methods that are external to the student, but what I found instead were new skills, tools, and methods that support each student's inner person. For as the world continues to change around them, the one thing that will stay constant is themselves. It is essential, then, that they are standing on solid ground with confidence, vision, and joy.

So in addition to the foundational learning that should, in my opinion, already be the twin imperatives of every screen programme - a) providing a foundation in the time-tested creative/technical skills of cinematic storytelling; and b) staying current with the ongoing evolution of enabling technologies in a way that invigorates and inspires students and that supports them to keep their minds open to unlimited creative possibility - there is now a third imperative that we as educators owe our students. As their mentors and their guides into the complex world of screen, it is vitally important to weave into screen education skillsets that enable students to raise, strengthen, and maintain their self-efficacy. Mental and emotional support tools now need to be front and centre along with creative, critical, and technical/operational skills to enable the screen practitioners of tomorrow to have sustainable, even joyful, futures. We can't ignore it any longer.

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APPENDICES

Appendix A: Pre-Understandings

As mentioned in section 6.4 *Conclusion*, I entered this research journey with a different agenda than the one that eventuated. My primary focus was, as it remains today, how screen education can best prepare students for accelerating change. My assumption, starting out, was that the answer laid somewhere in agile curriculum design in order to enable screen education to remain relevant by teaching the latest toys.

This list reflects my pre-understandings of screen education and change in the very first days after I chose Hermeneutic Phenomenology as a methodology. As I've progressed and grown, I see this list as much less relevant. However, to create a new list of my pre-understandings after the fact would be an empty exercise and not faithful to the intention of capturing pre-understandings, which is, as I understand it, is to take a pre-research snapshot of all the assumptions I am bringing with me on Day 1.

HIGHER ED 1: Higher Education is a valid and reliable platform for imparting skills and knowledge that will enable them to work in professional screen industry roles.

HIGHER ED 2: Higher Education is a valid and reliable platform for training people how to find or create work in the screen industries;

HIGHER ED 3: Higher Ed is not sufficiently preparing students for jobs in the screen industries;

HIGHER ED 4: It is the inherent obligation of screen education to prepare students for accelerating change in the screen landscape;

LANDSCAPE DEFINITION: There are several industries that together comprise the “landscape” into which screen grads will integrate;

- The low-hanging fruit industries are:
 - pre-production, production, and post-production concerns that feed programming (& programme promotion) to film & television, including streaming services;

- all manner of online content: drama (e.g. web series); informational (e.g. corporate comms, docos);
- also, the advertising industry as it applies both to F&TV and to online content, including multimedia design firms (e.g. Method Studios NZ);
- **EMERGING MODES:** There are aspects of moving image that are less obvious which also will require workers at various skill levels. These include groups working in VR, AR, and MR for entertainment, informational, and business applications
- **EMPLOYEES / CONTRACTORS:** The above are largely situations in which screen grads will seek employment. The third tier of content creation is one in which screen craftspeople (creatives/technicians) are independent contractors. They have their own businesses and hire out their services for a number of applications (e.g. online ads for small local firms; training videos for companies targeted at either their employees or their clients; wedding videos; local music videos; etc.)
- **SELF-FUNDED (MULTIMEDIA) ARTISTS:** Finally, there is the notion of the screen artist, busily exploring & experimenting in their draughty garrets, pushing the boundaries of the media, blending visual media, audioscape design, programming, possibly ux design, fine art skills, and other disciplines, to generate new hybrid forms of art. They support themselves while doing this by working in the above areas. These people might give away their work at first as they build a fan base, then begin charging for the premium content (the Freemium model). Hopefully, they can parlay their discoveries and patronage into higher-level freelance art commissions and/or contracts.

THE NEED FOR GROUNDING IN CONVENTIONAL FILMMAKING METHODS:

Younger people who are entering the Screen discipline need some sense of film/moving image history and their skills and abilities will be enhanced by having a grounding in (at least some of) the time-tested conventions of moving-image visual storytelling (a.k.a. filmmaking techniques).

- Most of them do not know or appreciate film history or the significant works that have come before them.

HYBRID ON THE RISE: Careers for hybrid media practitioners will continue to develop and grow.

- Therefore, it is important for many people with screen abilities to broaden their skillsets to include other disciplines that can feed into their hybrid practice.

POST-LITERACY: In an increasingly post-literate environment (assumption), the need will grow for screen content of all types to supplant text.

- This will provide more employment opportunities for embedded creatives.

ACCELERATING CHANGE: The screen industries are evolving exponentially.

Appendix B: Interview Questions

After several iterations, this was the final list of questions for all research participants. This is copied from the document I worked off of during the interviews; the colours are prompting aids for me to be able to just glance at the list and not have to fish for where I was. The black text is the script, representing the words I would say to them. The **bolded purple text** is equivalent to bullet points guiding me to the core of each question. The **orange text** is equivalent to stage directions; they are notes to myself.

FACTUAL

1. What is your occupation?
2. How long have you been working in this role?
3. Please describe in detail what you do?
4. How long have you been in this industry, and what other roles have you had?

CHANGE STORIES

5. How are things **different today** FOR YOU than they were when you first began?
 - **[If not addressed just above]** The Screen industry has been changing and evolving so rapidly over the past 10-15 years, both technologically and structurally. How have some of these **changes impacted your career?** [What are some of the most significant changes?] - also changes in society, culture, (etc.)
6. Can you **think of a time** when **you felt really challenged** in your career by changes that were occurring?
 - Can you tell me the story of **what happened?**
7. **[Dig-deeper questions if not revealed in their story:]** Let's explore some examples, if you don't mind. Can you describe some of the specific industry, technology or workflow-related changes that have occurred since you first started that have affected the way you do your job?
 - **[Through conversation (not interrogation), find out . . .]**
 - a) **How the change(s) affected how they did their job**

- b) **How they felt** about the change(s) when they first learned about it (them)
 - c) Did they feel they **had the skills & capabilities** necessary to adapt to this change, OR did they **need to acquire new skills/capabilities**?
 - d) Any **other challenges** have presented themselves as a result of these changes? (family, lifestyle, getting older, broader industry changes, ...)
8. How did you **respond** to these changes
- Find out what they **actually did** (e.g. take a course, etc.)
 - **After you made changes** to your own process in order to adapt to changes that occurred in your work, **what was different?** (the way you were regarded, the ease or difficulty of your new workflow, the way you saw yourself)
 - What do they **wish** they had done?
 - [if (b) not answered sufficiently:]
 - If they had it to **do over again**, how might they have **responded differently**?
9. Across the various changes, what parts of how you do your job **remain consistent** (have not changed)?

PARTICIPANT'S CAREER

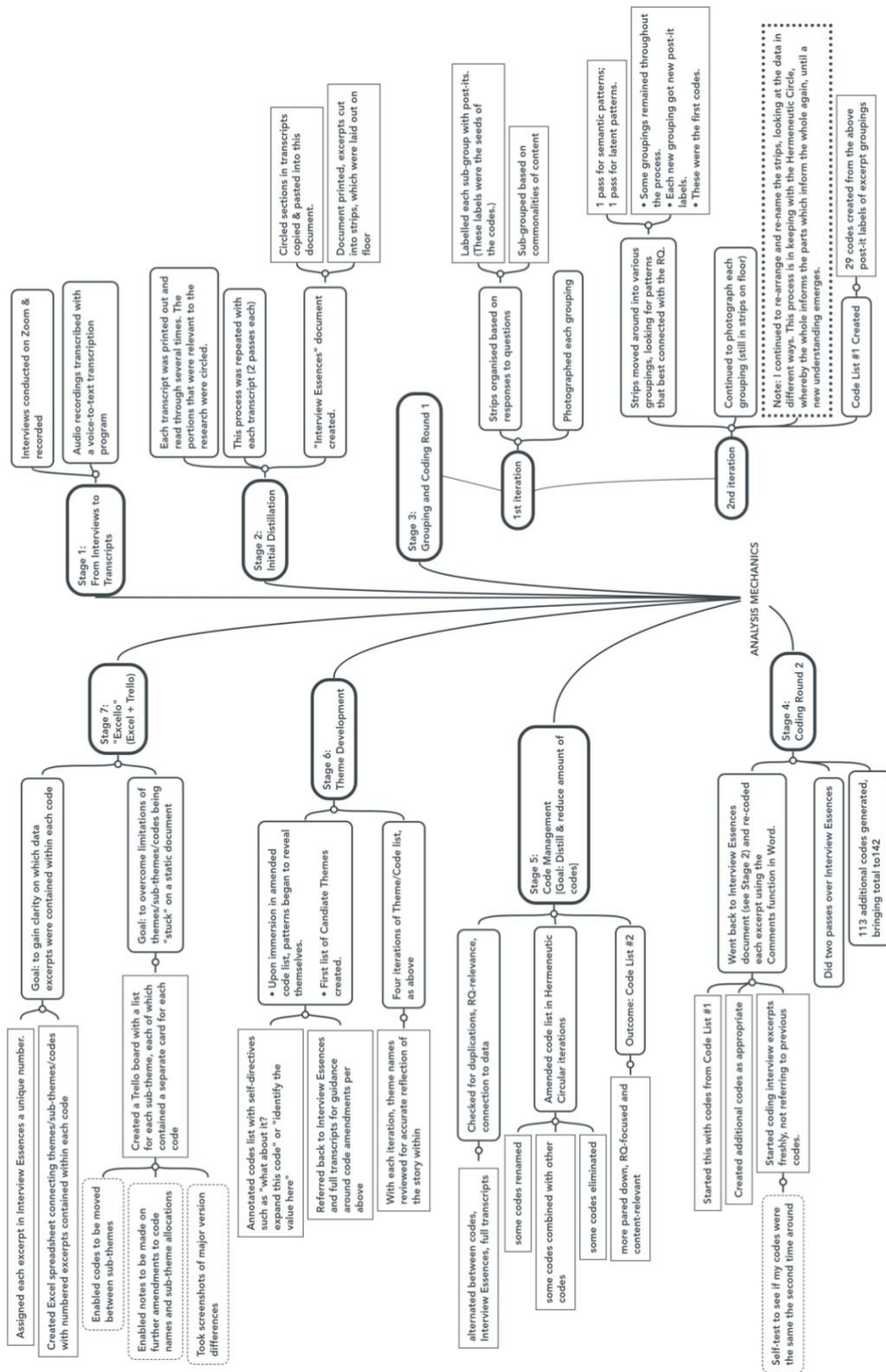
10. What can you tell me about the skills and attributes you have that have helped you **DEAL WITH CHANGE** in your career so far?
11. Throughout the changes during your career, how have you **stayed employable** / how have you kept yourself in work (if not an employee)?
12. Thinking about the **future**, how do you feel **about the way things are evolving** and how they might affect your career or the way you work?
- [What are they doing about it now, are you upskilling and/or adapting in some way?]

HAS CHANGE CHANGED THEM?

13. How has your ability to change shifted over your career?
14. What advice would you give your younger self to be better prepared for change?

Appendix C: Analysis Mechanics

Here is a mind map of my process from raw interview data to the development of themes.



Appendix D: Themes , Sub-Themes and Codes

Explanation of Coding Process

I began by extracting salient statements from each interview transcript by cutting and pasting them into a separate document. I then printed this document and cut out each statement, ending up with almost two hundred strips of paper, which I then laid out on the floor of my lounge (having moved all the furniture back to clear a large space). The next step was to arrange these strips into areas of commonality and labelling each grouping with post-it notes. These were the nascent codes. Next, I'd move the strips around into different groupings, adding and deleting post-it labels, taking a photo of each iteration. Below is an image of some of the arrangements. To help me stay organised, I wrote the participants' names at the top of each strip. Therefore, I've kept this image very low resolution to eliminate any possibility of participant identification.



Based on the photos of my physical strips of paper, I then returned to the interview excerpts in Word and arranged them to match the physical grouping. Therein followed a process of grouping and re-grouping the coded interview excerpts (all on computer now), each time refining both the choice of excerpts and their placement within the code groups. This step underwent five iterations.

The list below contains the three themes plus their sub-themes. It also contains alternative code groupings, meaning that they are outside of the thematic groupings. Many of those alternative codes were created in the very early stages of my search for patterns in the data. Several of the early codes were discarded; the ones that remained that were assigned to the interview excerpts more for the purpose of organisation than as part of the interpretative process. By sorting the data in various ways by both the principal codes as well as by these alternative code groupings, I was able to get a more triangulated perspective that helped facilitate insight into the core story within the data.

I have employed different coding types, using Saldaña's Coding Manual for Qualitative Researchers (2013), as a jumping-off point for defining them. The codes found under the themes and sub-themes were assigned using what Saldaña refers to as Structural Coding (p. 84), which is a "concept-based or conceptual phrase" representing the element of data as it applies to the research question.

At the end of each theme, you will also notice a small group of "Topic Codes", referred to by Saldaña as Descriptive Codes (p. 87), which designate broad subject areas being discussed, such as "portfolio careers" or "changing tools". These do not qualify as relevant to the themes per se, as they do not convey any evaluative information.

There are code groups at the end of Themes 1 and 2 that I've called "Reactions and Opinions about the Theme". These are catch-all grouping containing points made by the participants that were less accounts of their lived experience of change than they were the participants describing a broad aspect or state, such as "digital enables a new kind of creativity" or "the definition of screen is expanding". These also include code phrases describing how people were feeling, such as "fear change" or "disenchanted by academia". The Reactions and Opinions about the Themes groupings combine Saldaña's "Emotion Coding" (p. 105) and "Values Coding" (p. 110). These groupings are appropriate to Themes 1 and 2 because they are focused on issues that the participants are reacting to. They are the spillover of codes that did not fit

directly into the sub-themes, but they did inform my overall Hermeneutic interpretation, hence their inclusion here. They are not found at the end of Theme 3, however, because that theme is focused on the participants' responses to the issues raised in Themes 1 and 2. To include Reactions and Opinions about their own responses was not necessary.

These two additional code groupings were very helpful as organisational tools in my iterative journey toward meaning creation. They came in most handily as I was able to use them as search criteria through my coded interview excerpts to get cross-sectional views of the data from different viewpoints.

Theme 1: Faster, Cheaper, More Complex, More Competitive

- Sub-Theme: Things Are Speeding Up
 - everything is getting faster now
 - lighter gear, smaller crews
 - digital enables working faster
 - digital enables immediate feedback where film didn't
 - new tools coming out faster than then used to
 - less money, less time, higher expectations, more pressure
- Sub-Theme: Things Are More Complex
 - more new techs to upskill on
 - I need to spend my own time keeping up to date with changes
 - I'm working harder now
 - teaching is harder now
 - overwhelm
 - info overload
 - numbed to constant change
 - change fatigue
- Sub-Theme: Screen Is Becoming More Accessible to More People
 - inclusivity is on the rise - but slowly
 - increased accessibility to tools & information is a mixed blessing
 - lighter, cheaper gear enables users to own their own tools

- fewer new practitioners who've "mastered" their skills
- more students entering screen programmes with pre-existing knowledge/experience
- students' previously acquired technical skills enables more craft-based teaching
- learning moments lost when students learn on their own gear
- Sub-theme: There's More Competition Now, So Keep Up or Be Left Behind
 - digital enables more things to be done, which also could mean it enables fewer people to do them
 - being young is an asset
 - more competition now
 - fear of being left behind
 - I might have a use-by date
 - easier now to learn new techs now than before
 - reinvention of self, pivoting
 - ever vigilant to ensure survival
 - staying in the same place is deadly
 - the need to be a problem-solver
 - finding innovative solutions
 - critical thinking
- Topic codes
 - rate of change
- Reactions and opinions about the theme
 - film methods taught discipline & preparedness, some of which is lost with digital methods
 - fear change
 - anxiety
 - disenchanted with academia
 - disenchanted with film as a medium of expression

Theme 2: Blurring Lines, Changing Values, Evolving Needs, Shifting Jobs

- Sub-theme: Both How Things Are Done and Who Does Them Are Changing
 - blurring lines, more fluidity
 - tools, methods & jobs that are expanding, shifting, or becoming obsolete
 - I have to hop around between different jobs in the screen industry to pay the bills
 - evolving technologies' effect on how people do their jobs
 - trying to stay responsive to evolving student needs
 - trying to keep abreast of the changing screen landscape
- Sub-theme: It's Become Less About Craft And More About Business
 - less about craft, more about business
 - less craft/artistry/experimentation now
 - the digital world is a sterile world
 - corporatisation of education has led to employer-centric approach to screen ed
- Sub-theme: Evolving Audiences, Evolving Screen Education
 - effects of streaming
 - the atomisation of content
 - changes in viewing habits
 - whither Cinema?
 - social media reverberations
 - evolution of audiences/users
 - the rise of impatience
 - smartphones enter the mix
- Topic Codes
 - portfolio careers
 - COVID
 - changing tools
 - changing methods
 - possible downsides of new techs

- evolution of change w/in an industry
- AI
- Reactions and opinions about the theme
 - filmmaking is now better than it used to be
 - scarcity to plenty with technology leads to some lack of discipline
 - digital enables a new kind of creativity
 - the definition of screen is expanding
 - having a family challenges career progression

Theme 3: Leaning Into Change

- Sub-theme: Finding Pathways to Acceptance
 - level of okayness with change
 - coping tools
 - know thyself
 - humility
 - child-like positivity
 - self-care
 - Confidence: need to have
 - confidence to explore
 - openness to whatever life brings
 - the importance of play/exploration
 - I'm okay with some aspects of change
 - willingness to compromise
 - enjoy the process
- Sub-theme: Being a Work In Progress
 - ongoing learning
 - openness about how to accomplish things
 - curiosity
 - flexibility

- not knowing the answers
- willingness to let go of the old
- willingness to learn new things
- need to learn/keep current on software/apps

- Sub-theme: Spreading Wings
 - building/joining community
 - variety of experience
 - the value of having a broad knowledge base
 - the value of having multiple skills
 - the value of having one's own personal creative practice
 - embrace change
 - inner drive
 - the inner drive to innovate
 - do the different thing
 - finding opportunity
 - creating opportunity
 - taking charge of change
 - being okay with risk-taking
 - just do it!
 - pivoting is risky
 - dealing with uncertainty
 - thick skin
 - correlation between agility and hunger / drive

- Sub-theme: Words to The Wise
 - chasing change vs. becoming change-proof
 - seduced by change
 - not changing is okay too
 - I wish I would've changed faster
 - I wish I would've changed slower
 - I miss this aspect of film
 - I don't miss this aspect of film

- Topic Codes
 - new screen techs in education
 - approaches to teaching screen
 - teaching/learning of agility

Appendix E: Interview Participants

This is a description of the nineteen participants in the study. To preserve anonymity, the participants have been given initials according to their role description, described below. Each initial is followed by a number (e.g. DMIP-4). These numbers are sequential through the list of participants, meaning they do not reset with each category, but begin at 1 and continue to 19. The intention of this numbering system is to enhance clarity, so there are not five #1's, five #2's, etc. It is hoped that giving each a unique number, in addition to their role descriptions, will further distinguish them from one another.

The intention was to create a multi-faceted view of change through the experiences of people in different screen-associated roles, which are represented by the five categories. Each category described below contains a table listing the inclusion criteria and the rationale for selecting the category in the group of participants. There were no explicit Exclusion Criteria in any of the categories other than potential participants not meeting the Selection Criteria. Through informal conversations held with potential participants before the study, only those who met the Selection Criteria were invited to participate.

Whilst each participant shared their experiences of change through their viewpoint in the roles of one of the five categories, several of the participants' activities also brought them into secondary categories within this framework. For example, FIV-1 and FIV-3 are long time Directors of Photography (hence the Film Industry Veteran classification) but have also spent time teaching cinematography at two different Auckland tertiary institutions, so they have SE (Screen Educators) as a secondary category. A table at the end of this document lists the participants within each principal category along with their secondary category. The intention here is to underscore the depth of experience and breadth of perspective that the participants bring to this research as well as to provide a more holistic view of each respective participant's horizon of understanding.

Film Industry Veterans (FIV)

These participants are important to this research because they began their careers in screen having been trained in the time-tested methods of conventional narrative filmmaking. Today, they are still working, but in a screen industry that currently looks very different than the film

industry in which they started. They are therefore well placed to provide perspectives of change from a longitudinal viewpoint.

CRITERIA FOR SELECTION	RATIONALE
Have worked in “filmmaking’ side of screen industry for at least ten years	Ability to see the greatest amount of change over time
Are still working in industry	Understand technical specifics of current needs and can contextualise them in a historical continuum
Breadth of experience (rose through ranks, worked on different types of shows)	Have a broad perspective and can talk about current needs from a more informed position
Have experience seeing a lot of different people come through	Able to evaluate current needs from having seen varying levels of success & skill/talent levels
Have taught or mentored – desirable but not required	Understand the nature of teaching and learning, and challenges facing learners
Have worked in both film & digital realms (on “film” projects) – desirable but not required	Have a historical perspective and might have a better sense of where things are going based on where they’ve been

FIV-1 & FIV-2 are both Cinematographers (also known as Directors of Photography, DOPs, or DPs). Both worked their way up through the ranks, beginning as Camera Assistants, and have each enjoyed steady work over the last 30 years shooting New Zealand-based feature films and TV series’, plus countless commercials, short films, and music videos.

FIV-3 also began as a Camera Assistant, and then moved up to Camera Operator, working for some of New Zealand’s more prominent legendary cinematographers. She worked for a decade as a Cinematographer and is now an educator at an Auckland tertiary institution where she works with extended reality in the service of contemporary art and design practice.

In their secondary categories, both FIV-1 and FIV-3 have also spent time teaching into screen programmes at tertiary institutions, bringing them into the secondary category of Screen Educator (SE).

Digital Moving Image Practitioners (DMIP)

These participants are important to this research because they function in the innovative technology space and therefore provide a particular perspective on change in screen. Three of them have adapted to changing conditions by pivoting in their careers into more future-facing roles, and are therefore valuable models for proactive resilience.

CRITERIA FOR SELECTION	RATIONALE
Have worked in moving image media for at least ten years	Have been around long enough to have experienced changes occurring in moving image media
Are involved in digital moving image media that has existed for no more than twenty years, preferably for fewer than ten	Are familiar with newer tools and methods
Have worked in a decision-making position in digital moving image media for at least five years	Have a broader industry perspective than someone who is solely focused on craft execution
Are currently, or have been involved in, an aspect of digital moving image media that is innovating or breaking new ground in either tools or methods used for creation, manipulation, delivery, or usage	There's a good chance that they have a sense for where technology and usages for it are headed

DMIP-4 began her career in the film industry. She pivoted into emerging technology, founding a technology solutions company that was one of the first firms in Auckland producing VR content, as well as renting out equipment to shoot and package VR projects. Sitting on a number of boards and advisory panels, DMIP-4 is now a respected expert in innovation and digital strategy.

DMIP-5 began her career as a game designer in 1992 then pivoted into video post-production, becoming a motion graphics artist and then an online editor, culminating in a tenure as CEO of

a major post-production facility in Auckland. She now owns and operates a company that creates Alternative Reality experiences for both for-profit and non-profit concerns. In her secondary category, DMIP-5 has also served as Digital Growth Program Specialist for the Auckland Council-based agency that supports economic and cultural growth in the region, bringing her into the secondary category of Screen Industry Support (SIS).

DMIP-6 owned and operated a recording studio until she saw that large-scale multi-track recording technology was being subsumed by laptop-based systems. In response, she pivoted into pioneering an innovative sub-titling and dubbing service bringing international entertainment and educational content into te Reo Māori for which she has recently created a mobile app. DMIP-6 continues to find ways to combine New Zealand storytelling with cutting edge technology for which she has been inducted into the New Zealand Hall of Fame for Women Entrepreneurs. DMIP-6, also has years of film industry experience, serving many of them as a producer, explaining her additional FIV categorisation. Additionally, she has been a member of Toi Mai, the Workforce Development Council that is involved in the development of training programmes aimed at upskilling people from a diversity of economic backgrounds in screen skills to meet the crewing demands of a growing screen industry. Therefore, she is also considered SIS.

DMIP-7 co-owns and operates a digital agency that creates assets across a variety of media platforms including website and immersive experience design such as Extended Reality (AR, VR, MR) experiences for corporate clients, communities and museums. She and her company also do pro bono work for worthy causes. In her secondary category of SIS, she sits on the 21-member Auckland Screen Taskforce. Comprised of members from the public and private sector, the Taskforce is a cooperative initiative of Screen Auckland and Film Auckland and represents filmmakers across the Auckland region. Its mission is to provide “a cohesive strategic direction, representation and advice to assist the local (screen) sector to thrive.”

Screen Industry Supporters (SIS)

These participants are important to this research because their work relates very closely to the screen industries but is outside of actual screen practice or screen education. Their connection to screen is through serving in roles that support the industry. Therefore, they can provide

unique understandings of change in screen from the perspective of their particular vantage points.

Support is defined as any one or more of the following: providing and maintaining information networks and databases; fostering communities of practice; connecting needs with provisions; advancing the field through PR, policy initiatives, establishing funding frameworks or systematically providing information on funding opportunities.

CRITERIA FOR SELECTION	RATIONALE
Works in a capacity that supports either traditional (film & television) or emerging media industries.	Has an understanding of the needs of given industry group(s)
Has been involved in supporting New Zealand screen industries for at least five years	Has spent enough time around moving image industries to have seen change occur
Works directly with makers and/or crew in screen industries OR with practitioner groups	Has first-hand understanding of change issues faced by screen practitioners
(optional but preferred) Has experience working inside the screen industries in a creative and/or technical role.	Has first-hand understanding of the realities of moving image work

SIS-8 founded and ran two distinct New Zealand film festivals and is a board member of a major funding body for New Zealand films. In his secondary category (FIV), he is the director of a recently-released feature film as well as being an exhibitor who co-owned and ran an “arthouse” cinema. He also owns a large library of 35-millimeter movie prints.

SIS-9 holds a leadership position at an Auckland council-controlled organisation that is committed to developing the economic and cultural growth of the city by enhancing “cultural vibrancy” whilst driving investment and innovation. SIS-9’s remit is Investment Attraction, Skills and Workforce, Innovation, and Climate Change. Within this, her particular focus is on technology, creative industries especially screen, and the visitor economy. She has been working in the economic development space for a number of years, and has been responsible for creative technology growth in Auckland for over four years.

Screen Educators (SE)

As the core of this research relates back to screen education, it is vital to include the voices of screen educators, who have all experienced complex layers of change in screen practice as well as in screen education. As it happens, all of the screen educators who participated in the study began their careers in the film industry. Therefore, they all have secondary categories of FIV.

CRITERIA FOR SELECTION	RATIONALE
Has either worked in the screen industries and/or has taught in screen education for at least ten years	Has experienced change in screen industry and/or in screen education.
Currently teaches into screen programmes – and/or has up until recently taught screen and now works in leadership over a screen programme.	Is knowledgeable about current students’ level of knowledge and of screen savvy; is in touch with what types of knowledge, skills, and capabilities today’s students lack; has an awareness of how screen students have changed over the years, and of what today’s students (think they) want; Also has experienced changes related to the nature of, and support for, screen education

SE-10 is a senior lecturer at a tertiary institution in Auckland, where she has been teaching screenwriting and screen production since 2011. Still an active screen industry practitioner, she has over fifteen films to her credit as producer or executive producer, and has written over a dozen episodes for two different television series. SE-10 has been in the screen industry since 1991.

SE-11 has been a lecturer in screen production at a tertiary institution in Auckland since 1994, so has experienced three decades of change in screen education, placing him well to gauge longitudinal change within a single institution. He was involved in the initial setup of the screen department there, and was influential in early decisions around curriculum structure as well as facilities and equipment choices. Professionally, he has been an editor and is still active as a cinematographer.

SE-12 has taught film at most of the institutions in Auckland with screen programmes, giving him a cross-sectional perspective of change within screen education. He is currently the

programme leader of the degree within which the screen discipline resides at a tertiary institution in Auckland, also providing him an experiential overview on change in screen education from a leadership perspective. He is a filmmaker, having directed several of his own screen projects, and has served as both an editor and a producer in television.

SE-13 is a professor at a tertiary institution in Auckland, where she has taught both theoretical and practical aspects of filmmaking since 1995. She has designed and delivered multiple courses and has held various leadership roles in academia. SE-13 is a highly respected documentary filmmaker and her work has garnered awards internationally. She has been in the screen industry for over thirty years.

SE-14 is an associate professor in media and screen at a tertiary institution in Auckland, where she has been teaching various aspects of screen production, with a principal focus on screenwriting, for the past twenty-five years. A film industry veteran, her career in screen includes writing and directing a number of short films as well as producing and executive producing films since 2007. In her secondary category of SIS, along with DMIP-7, she also she sits on the Auckland Screen Taskforce.

Screen Graduates (SG)

This category is comprised of practitioners who graduated from screen programmes in the Auckland region and who are currently working in the screen industries,. These particular participants studied screen between 2004 and 2015, which was right in the middle of the pivotal period during which celluloid production was supplanted by digital production (Lipton, 2021). Given that their study occurred within that timeframe, their experience of change as screen professionals will be based on slightly different time scales from one another, and from the other participants, adding another layer of interest to their recountings of how things have changed. In that screen graduates are the ultimate focus of this study's enquiry, their voice is important to this research as they were on the front lines of dramatic change in the screen industries.

CRITERIA FOR SELECTION	RATIONALE
Have graduated from a moving image programme in NZ	Understands the nature of moving image education and can compare & contrast education with 'reality'.
Is currently working in the screen industry as their primary employment, and has been consistently doing so for at least five years	Has been in industry enough time to have experienced some change

SG-15 has worked his way up the camera department ladder on large TV series for American streaming services on which he now works as a First Assistant Cameraperson (1st AC). He graduated in 2015, meaning he has nine years of professional screen experience as of this writing.

SG-16 alternates between jobs as a 1st AC on larger-budget productions and a Cinematographer on smaller and medium-budget shoots. She graduated in 2011, so has thirteen years of professional experience as of this writing.

SG-17 has a portfolio career, and wears many hats. On some projects, he is contracted by corporate clients to provide full production services where he creates content that he produces, writes, directs, shoots, and edits. He also is hired independently as a Cinematographer, a 1st AC, a Gaffer, an Editor, and a Producer. He graduated in 2010, giving him fourteen years of professional experience as of this writing.

SG-18 is a sound engineer who works on the post-production end, where he serves in a variety of roles including atmospheric track-laying, foley artistry, automated dialogue replacement (ADR), and final mixing and equalisation. Having spent a number of years working at sound post facilities, he has recently gone independent and now works largely out of his home studio. He graduated in 2008, giving him sixteen years of professional experience as of this writing.

SG-19 also works in sound, but on the production side, as a Boom Operator and a Sound Recordist. He works on a range that spans commercials, television and feature films. He graduated in 2006, giving him 18 years of professional experience as of this writing.

Table of Primary and Secondary Categories

The table below indicates the primary work category under which each participant was grouped. Participants in four of the five primary categories also had work in a secondary category in their backgrounds. The naming convention aligns with the categories of each participant:

- FIV: Film Industry Veteran
- DMIP: Digital Moving Image Practitioner
- SIS: Screen Industry Support person
- SE: Screen Educator
- SG: Screen Graduate now working in the screen industry

		In Numerical Order					By Category				
		Primary category					Secondary category				
		FIV	DMIP	SIS	SE	SG	FIV	DMIP	SIS	SE	SG
TOTALS →		3	4	2	5	5	7	0	2	2	0
1	FIV								SE		
2	FIV								SE		
3	FIV										
4		DMIP									
5		DMIP						SIS			
6		DMIP					FIV	SIS			
7		DMIP									
8			SIS				FIV				
9			SIS								
10				SE			FIV				
11				SE			FIV				
12				SE			FIV				
13				SE			FIV				
14				SE			FIV				
15					SG						
16					SG						
17					SG						
18					SG						
19					SG						

		Primary	Secondary
FIV		1	6
3 / 7		2	8
		3	10
			11
			12
			13
			14
DMIP		4	
4 / 0		5	
		6	
		7	
SIS		8	1
2 / 2		9	2
SE		10	5
5 / 2		11	6
		12	
		13	
		14	
SG		15	
5 / 0		16	
		17	
		18	
		19	