Title

The Resilience of Game Design Education

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Abstract

The COVID-19 crisis has exacerbated calls for digital skilling and literacy in the arts sector. The authors reflect on their experiences with games education during this period and offer insight into how game design as a creative process, rather than the consumption of games, offers a model for resilience in education. We present how games learning and industry practices, particularly from the independent and art-games sectors offer a de-siloing between traditional approaches and inclusivity towards digital practices. The de-formalising of games has granted more creators to access the means of production to create digital interactive experiences. We discuss how games design offers collaborative thinking between creative artists and technical systems experts, which offers a timely challenge to the individual centricity of practices in traditional or establishment arts. Additionally, the producers of games are leaders in the discourses of gender diversity, non-binary representation and support for neurodiversity, despite perceptions of the field being to the contrary. Ultimately, a shift in the perception of games and gamers has opened the doors to creatives institutionally and otherwise towards adopting such practices and experimenting in the media of games.

Biographies

Tom Penney

Dr Tom Penney is the program lead of the Bachelor of Design (Games) at RMIT University and a digital artist and play philosopher working in game engines. He has over 10 years' experience educating young artists and designers in digital technologies.

Christian McCrea

Christian McCrea is a lecturer in the School of Design at RMIT University. He is a researcher writing on science fiction, film, videogames, animation, and the popular digital arts.

Jennifer Lade

Dr Jennifer Lade is a games lecturer who established the RMIT University Games programs 15 years ago. Jennifer advocates for gender equality, diversity, and inclusivity in the field, for which she was recognized in 2018 in the international 50 over 50 games advocacy listing.

Katherine Inabinet

Katherine Inabinet is an Industry Fellow in the School of Design at RMIT University. She has over 15 years' professional experience as a technical animator, is an active mentor for women and underrepresented communities in the games industry and has lectured in digital technology since 2009.

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Introduction: The Stakes of Play

Children and adults in various stages of COVID-19 lockdowns with access to electronic devices saw videogames in an entirely new way. What was a hobby and pastime in 2019 became a necessary safe harbour, schoolyard, therapist, local bar, transport, food hall, and more in 2020. With so much devastation of the social order, our traditional separation between escapism and utility has also transformed. Whether it was staying happy, staying socialised, staying motivated or staying curious, games were filling roles that were already evident to those immersed in them. The traditional and mediated social discourse - that games were fundamentally in a diametric relationship with the material, real world - has perhaps been permanently shifted (Palumbi, 2020). This paper asks some direct questions about this shift and proposes that game design and development, rather than consumption, might be providing for people a kind of resolute resilience specific to this crisis and the conditions around it.

Our key questions are framed now by COVID-19 because doing so exposes misunderstood elements of the gaming sphere and its social role, especially in Australia. Our key questions have become timely, with both the crisis itself and the Federal Government’s appetite for austerity-driven economies in Higher Education. 1) Who decides to be a game designer and game artist? 2) What is the process by which that design and that art is best taught and best integrated? 3) What past and possible future integrations exists for game art and design and the greater Art and Design fields beyond?

In the most general possible terms, games are not a marginal activity for computers that come after work/productivity and the social web; they are a continuous and contingent part of computer history. Because of their place in helping people explore digital interfaces and meaning-making, games play a role across the digital creative fields. In the contemporary context, games are well-placed to connect the creative offerings in Universities, such as design and art, to the contemporary aims of 'job-readiness' in institutions through their agility with contemporary platforms, STEM and digital modes of communication and collaboration. While this is the case, it is not necessarily games' interactivity, nor their entertainment-driven content formulas, nor their technologically driven methods which provide those future integrations, but rather their resilience and adaptability as collaborative, cultural forms.

Games within the Art and Design University

Recent scholarship emerging out of an Australian Research Council Discovery Project by Dr Brendan Keogh has focused on both the skill development and cultural landscape of videogame design in Australia, considering the dimensions of games education across dozens of institutions. Keogh outlines how historically, videogame development first became 'formalised' and then increasingly 'informalised' (Keogh, 2018) away from corporate control of aesthetics and capital-driven decisions, and into a more energetic creative field with space for expressive projects at multiple levels of experience and technical knowledge (Keogh, 2019). These terms will appear familiar in design discourse but have acquired different meanings in games discourse - 'informal' game design, where it is used, means to produce entertainment software outside of the main workflows and systems which are centralising both the production and consumption environment. This process has been charted by many scholars and thinkers over the last two decades, as games' intersection with the creative arts reaches back to the beginning of the form. Keogh flags Anna Anthropy's 2012 book *Rise of the Videogame Zinesters* as grasping just precisely what kind of art and design this new videogame production lends itself to; namely one far closer to the collage-driven, narrativistic and informal aesthetics of zines (Anthropy, 2012).

Games can be made today through the rough and quick adaptation of existing content and/or tools and still achieve considerable success, reflecting this process of ‘informalising’. First, it is important to note that this is also sometimes explicitly an embrace of crass, low-quality content as well as form. The availability of entry-level tools, content and asset libraries, tutorials and communities of support has greatly lowered barriers of entry to creatives who may not have prior education in areas like programming or systems-thinking. We might here invoke the ‘deformalising’ qualities of early modern art towards established material practices, where explicit politically informed moves to realign power to individual creators and artists has now taken on ongoing, persistent qualities through the relatively more democratised “at-hand-ness" of chosen tools. Keogh elsewhere asserts that:

> videogames are not exclusively an industry themselves, nor are they exclusively a part of a “tech” or “software” industry, even if that is how studios are commonly positioned in popular discourses. Instead, making videogames is cultural work and is primarily undertaken by gamemakers to pursue some sort of symbolic or aesthetic expression, even as they must negotiate how to make ends meet at the same time. (Keogh, 2019)

Universities are well positioned to capture not only the core competencies of computing involving both software development and hardware knowledge; but also to capture how the game design landscape looks increasingly compatible with other art and design fields. Private tertiary businesses focusing more on technical delivery have waxed and waned, while undergraduate and postgraduate level courses in games that position themselves away from the computer sciences and more towards art, design and even the humanities have thrived. For example, the University of Southern California (USC) offers game degree programs through the School of Cinematic Arts’ Interactive Media & Games Division and the Viterbi School of Engineering’s Department of Computer Science. While the degrees within each school might have different emphases or core disciplines such as broader liberal arts with specialisations in design and interactive

entertainment, or computer science foundations with cross-disciplinary specialisations, all degree tracks offer artistry, design, engineering, and production, and all game students work together across disciplines and degrees. This cross-disciplinary approach and strong focus on art, design and collaboration contribute to their no.1 ranking in the world for video game design schools.

The informalising of games' tools has allowed the vast number of young artists and designers who are not only digital-first (or to use the now-outdated term, 'digital natives' (Prensky, 2001)) but more accurately, game-first, to focus increasingly on higher-order creative vision than on the technical building of platforms and programming. While this is the case, games retain a need to teach, to use our own phrase, under the hood of the car (although in a less technocratic way than before) and are thus well placed to connect Design or Art schools with STEM, coding and other skills that speak to trends of the Government's 'job-ready' drivers. For games students, it is through both form (interactive, reward-sensitive, staged and sequential experience) and content (fictional worlds, dynamic characters, situations with agency) that games become a creative palette. For students immersed in digital media, games and animation are increasingly the first point of conception for creative work, as that is the culture they know and which saturates their vision.

Games are Diverse

Games are as diverse as the people who make them, and diversity in a community of practice helps to establish and produce resilience - specifically the resilience of action and support in crisis conditions (Duchek and Raetze, 2020).

Culturally, Games have suffered the perception of being made by and for cisgender men, but the formats, consumers, and stories that games tell are broad and many outside this medium and its communities do not experience the breadth of stories it has to offer.

The undergraduate program taught into by the authors of this paper, the Bachelor of Design (Games) degree at RMIT, has had to respond to the gender and racial diversity of applicants in unexpected ways, as the games community which surrounds them and then makes up their milieu post-graduation does not conform to expected industrial or social norms informed by higher education best practice. Students in this environment are entering a self-publishing and entrepreneurial market where cultural stories are valued and art style is foregrounded. In the context of 56% of students identifying as women or non-binary, those cultural stories and art styles are embodied in simpler graphical styles, restricted and bold colour palettes and rendering, and illustrative character forms, designs and animation. Style-oriented games such as Grace Bruxner's *Haunted Island: A Frog Detective Game* (2019), Olivia Haine's *Terracotta* (2020) or Ghost Pattern's *Wayward Strand* (2021) all emerge from a Melbourne games cultural environment that draws on the broader creative community and support networks, but also responsively adds to the global continuum and trend environment of games publishing.

The trend of informal communities of practice in social media environments interacts with these political concerns for diversity at University and corporate levels. Because online-ness is innate to Games community members (such as through Twitter, Reddit and Discord) and social media is a place young designers spend a huge amount of their energy and time, scrutiny on political issues is fast compounded. Concerns about unpaid labour in the industry, gender diversity and racial issues can clash with the University's aims in an austere financial and political setting. When these issues are the basis for student disputes (either with the institution or with each other), they can cause significant issues for student retention. Among the student body this is typically the clash between less-progressive students and progressive students, charged by the languages of the communities they spend their time amongst. This has been the major concern when going online for Games in COVID-19, but when managed responsibly by staff, the challenge students face in confronting and navigating those from different

backgrounds over time can produce the foundational awareness and empathy that constructs long term resilience.

Neurodiversity is a quickly transforming staging ground for identity-political discussion in the games field. Many games community members and designers are not neurotypical, and the COVID-19 crisis has laid bare the inability of health systems and employers to integrate different strategies of care into their environments. In response, neurodiverse games practitioners are mobilising for themselves and sharing strategies for self-management that straddle traditional areas of personal/professional resilience and more political arenas usually understood in the auspices of employment law and trade unionism. Nascent discussion in the video game industry has involved moving the sector forward through embracing and building resilience around neurodiversity (Clarke, 2020). This is achieved through initiatives centred around recognition and promoting the unique thinking, valuable skill sets and creative gifts that neurodiverse people offer, along with targeted strategies toward bridging talent gaps in the industry (O'Donohue, 2020) as well as attracting and supporting neurodiverse staff and students. RMIT Games' successful use of the Discord platform during COVID-19 increased inclusion and engagement for marginalised groups within our cohort and will inform future directions in delivery and peer collaboration.

Cross-Disciplinarity and Collaboration

Since games simulate entire worlds, they require artists, sound designers, writers, programmers, voice actors, motion capture actors and more. What design and education see as disciplines are broken up and segmented differently in games - self-described creative workers using catch-all terms such as 'artist' and 'animator' may cut across skillsets, as any industry, but because games production is entirely ersatz and bespoke, the manner in which any individual game comes to market may have utilised people's skills and backgrounds in a new combination.

The professional field of game development has looked to higher education institutions all over the world as the changing picture of skill development puts pressure on

production. Arguably, it is cross-disciplinarity, multi-disciplinarity and collaborative projects, also known as soft skills (Schulz, 2008), that are the most obvious pressure point, rather than any one technical skill which requires more or better depth learning. Specific technical workflows are often trained in-house by companies in around 8 weeks, whereas cultural issues can't be addressed so easily in graduates. For example, technical artists and game animators require exposure to programming and tools training as well as to develop substantial creative proficiencies. Forming projects with technical needs in mind, in collaboration with others, can be superficially compared to film or stage production but games have much more extensive preproduction phases because they need to build the engines, and test all the rules that define and simulate the imaginative worlds they offer. The stage is built from the ground up each time for each project. As such, games require persistent and extensive collaboration in studio education environments to build the resilience and 'soft' competencies that allow diverse people to share and execute a common vision. This studio learning philosophy is already shared amongst our neighbours in the creative arts, but it is the way games can culture and include digital-technical specialisations in this collaborative manner that is of worth imparting to others.

One discipline-unique format which has persisted through changes in software and social trends, even under COVID-19, has been the intensive-period development sprint, known more popularly in the field as a Game Jam. These are comparable to musical 'jam sessions' where musicians gather socially in a form of communal practice where experimentation and play lead to the development of new sounds and material. Game Jams combine the collective skills of developers from a range of disciplines and levels of experience through themed, rapid prototyping events that encourage original ideas, innovative thinking and productively chaotic collaborations. This fast-paced collective experience often results in new skill development, lasting social bonds, industry connections and even critical acclaim. Some successful games that were concepted and prototyped during Game Jams include: *Baba is You* by Arvi Teikari (Nordic Game Jam, 2017), *DERU – The Art of Collaboration* by INK KIT Studios (Zurich GGJ, 2014) and *SUPERHOT* by Blue Brick (7 Day FPS Game Jam, 2013). Locally, a graduate Ellie

Whitfort, was involved in a team producing *Screencheat* at the Melbourne Global Game Jam in 2014 and received such positive feedback and industry recognition for their submission they formed their own Melbourne indie studio, Samurai Punk, named as a nod to their first game jam collaboration *Samurai XX (*Everaardt, 2020). While the authors know the creative arts well enough not to suggest that Game Jams be taken up by everyone, they do offer this notion of innate freedom of collaboration between creative and technical participants as an example that can assist in connecting design and art to digital-first practices.

Game Art Style

We can recall Claire Bishop asking 'While many artists use digital technology, how many really confront the question of what it means to think, see, and filter affect through the digital?' (Bishop, 2012). In the case of games, we might say that young artists confront what it means to think, see, and filter affect through *Undertale* (Fox, 2015), or *Mario Kart* (Nintendo, 1992-present), or *Untitled Goose Game* (House House, 2019). They may also have grown up using Tumblr or DeviantArt. The image of games produced inside art and design education environments rarely finds a comfortable home between the expectations that colour its popular roots and the relative culturally elite demands of the institution. Yet, as alluded to earlier, with the turn towards stylistic novelty and mechanical simplicity of the past ten years, the options have grown considerably for students and researchers. In the case of games, we can talk coolly about the expected coded generic conventions, but each game is also a technological and aesthetic platform for designers working with and through their influence. Unless we re-examine the categories or attitudes to the aesthetic consumption of games material and adjacent artistic styles explicitly, we will struggle to capture the rate of change. Game art styles contribute to the resilience of the form and their education.

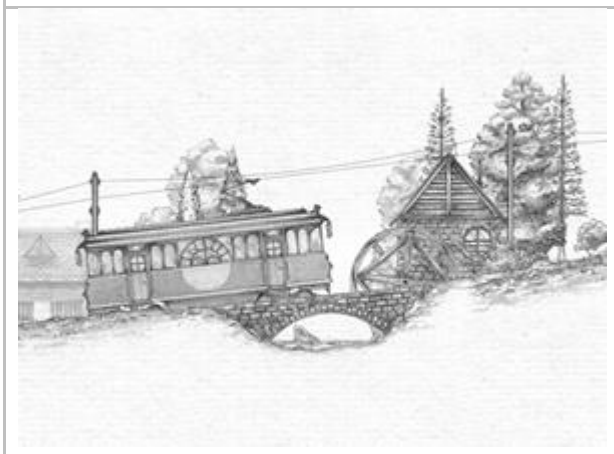
	
Fly me to the Moon, Olivia Haines, 2020, screenshot of digital game - image provided with the permission of the artist	*Stuck*, Andrew Karalis, 2020, screenshot of digital game - image provided with the permission of the artist
	
Short Trip, Alexander Perrin, 2017, screenshot of digital game - image provided with the permission of the artist	*Doorways OS*, Morgan Meehan-Lam and Kiri Wright, 2020, screenshot of digital game - image provided with the permission of the artists

Fig 1. Four examples of recent games from graduates of RMIT's Bachelor of Design (Games) program.

This shift is understood within games culture as a second wave of 'indie' game production, of which there has been a tranche of scholarship (Parker and Jenson, 2017; Parker, Whitson and Simon, 2018; Lipkin, 2013) examining the economic, sociological and cultural dimensions involved. However, the long arc of art and design contexts is informative here; what has really shifted is a kind of technological breach, rather than breakthrough. That is to say, the normative technological pursuit (of graphics, of

expense, of action, of generic tropes) mattered less, to more people, all at once. Comfort with what games can do, their expressive potential and reach, is no longer an edge-case discussion. At RMIT games we draw the comparison to conceptual art as a movement that ‘extends what art can be’ (Goddard, 2010) and suggest that recent turns in games production, and what we seek at RMIT games is to ‘extend what a game can be’. In Games, this attitude is culturally far-reaching and has large audiences through independent games. While establishment art practices in Universities have lagged at adopting a freeform approach to or use for games technologies, Game degrees have been fostering their own experimental practices. ‘Art Games’ are a common term for experimental or artistic games work, and it is highly encouraged. Theo Trian is a prime example of a games design educator peer working at UCLA Games; practicing with games technologies in extended, conceptual and artistic formats. Theo’s work can be viewed at http://slimetech.org/.

Online Exhibition

With many graduate shows around the world finding their way online in 2020, games were well positioned to increase student engagement, improve industry-facing contact and showcase work in a finalised format – games released on free platforms are now the norm. In 2020, RMIT Games created an online graduate show from two major components: an interactive online gallery and a live Twitch stream of graduating students’ games. The Twitch stream attracted over 950 individual viewers (meaning each individual viewer watched 10 minutes or more of the stream), including international peers that would not have come to our traditional physical shows. This success is due in part to the shareability of Twitch hyperlinks on platforms like Twitter, but also the cultural acceptance of this form as a popular everyday media platform in the games community which was designed specifically to livestream gameplay. This platform is now garnering attention from other fields due to its mass reach; Honda recently attempted to advertise during Esports streaming on the service but received backlash from the games community for it (Gruen, 2020). Livestream formats are now familiar territory for gamers and game content creators, while also an exciting new

space for public engagement – and can expand rather than shrink the audience for the graduate work.

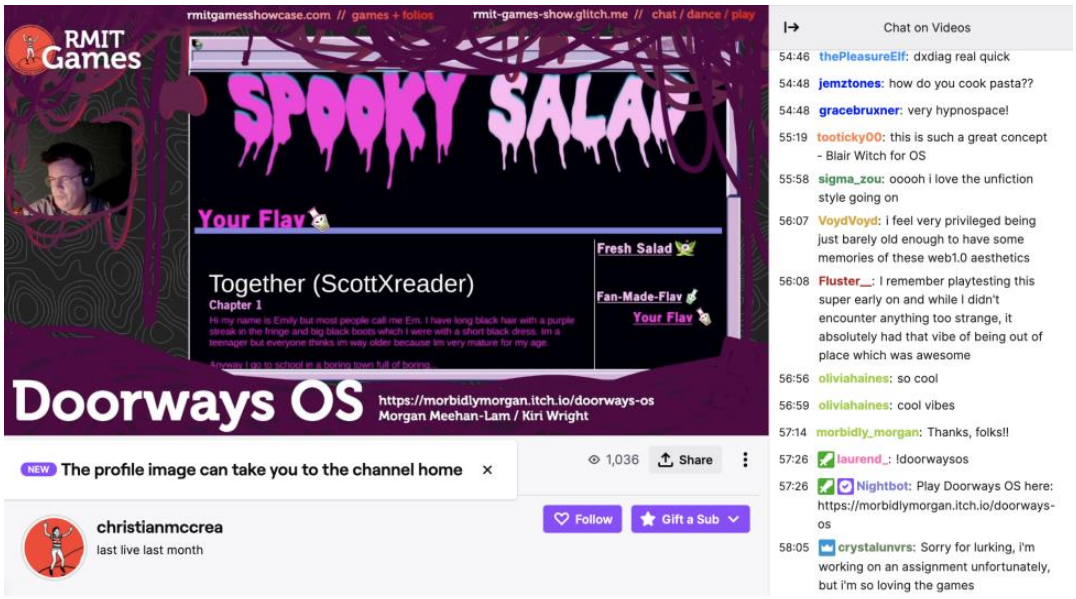


Fig 3. *RMIT Games Twitch Livestream*, Christian McCrea, 2020, screenshot of Twitch Livestream, image provided with permission of the author

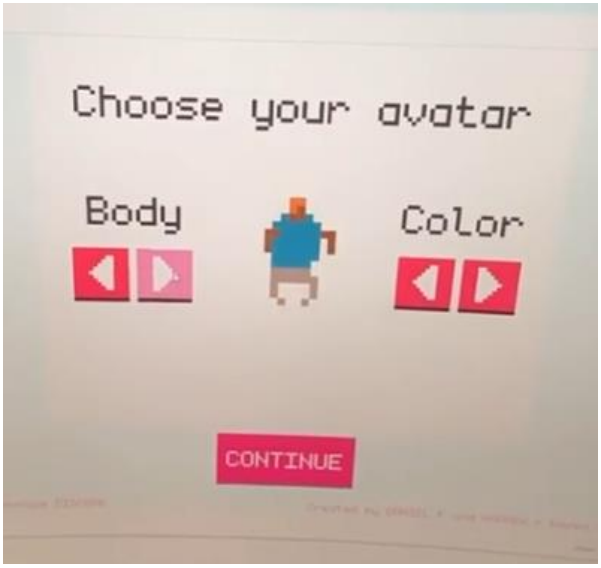
Physical exhibitions offer opportunity to demonstrate outcomes, engage with peers and expand networks. Being able to replicate this experience and level of engagement was the most challenging aspect of RMIT Games' Graduate Exhibition in 2020. Conversation centred around the opportunity for students to reflect on their creative process, position their identity within a professional context, and engage meaningfully with industry and peers. One question that remained at the forefront of this investigation was whether the lack of physical location and face to face interaction would limit communication opportunities, affecting internal and external perceptions of the graduating cohort and negatively affecting engagement and exposure outcomes. This challenge was given to the students themselves, who responded by establishing a unique interactive web presence with links to games, a bespoke 8-bit-themed playable social space playable at <https://rmit-games-show.glitch.me/> and supplementary chat in a Discord server. Games students essentially designed an interactive gallery. Additionally, Collective experience and a heightened level of awareness around the

potential for active disruption meant we could anticipate and control negative input without affecting the overall positivity of the ability to engage in a public space.

Games Online Gallery Entrance

Games Online Gallery Lobby

Choose your name for the Online Gallery



Choose your avatar for the Online Gallery

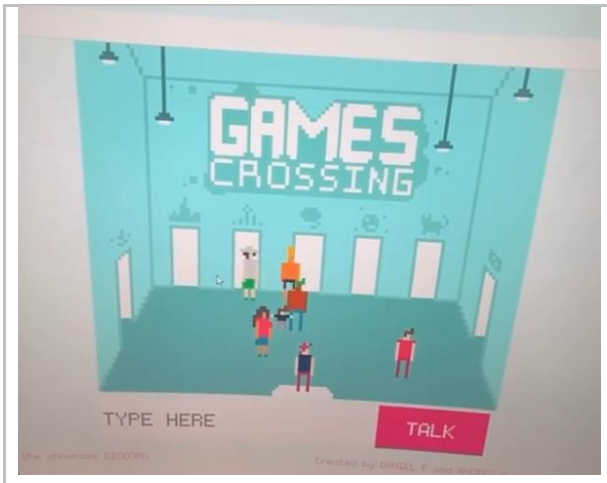
	
Games Gallery Room Choice	Room with links to student games projects

Fig 4. *RMIT Games Show interactive online gallery*, Dan Ferguson and Andrew Karalis, 2020, screenshot of digital web portal - image provided with permission from the artists

The end-of-year graduate showcase is an important milestone in the departure of a student journey, providing an opportunity to celebrate achievement and engage with family and peers. For Schools of Design in particular, graduate shows have evolved from a rite of passage into an industry facing exhibition format designed to attract representatives from games and adjacent industries (Sacchetti 2020) in order to increase relevant exposure, these Grad Shows are often held across dates and locations that coincide with industry events. When success is framed by social impact (Rawhouser et. al, 2019) ameliorating the concept of distance to enable genuine visitor connection and a lasting experiential relationship to the content (Luoto, 2018) becomes a key factor in determining the beneficial outcome of an online exhibition platform. With fierce competition among public and private design schools there is also a substantial stake in these events, because ‘In capturing the attention of preferred industry guests and future employers, the grad show’s identity also extends beyond the student cohort to reflect the calibre of the work and teaching embedded within each design degree program’ (Brooker et al. 2019).

Conclusion

As we reflect on our response to COVID-19 we can celebrate the welcome shift in public perception of games and gamers. A socially isolated public has looked toward the game community as a model of resilience and social connection. For many game developers and game design educators, business was more usual than for others during lockdown; with agile solutions to remote work and an already established fluency in virtual collaboration and online communication facilitating a relatively smooth response to rapidly changing circumstances. In this paper we have reflected on the resilience of Games education through its ability to respond to such circumstances and how it can connect the University's creative arts to a digital-first student cohort, culture and collaborative practice. The 'informalising' of Games has contributed to its resilience as it becomes less reliant on technocratic processes and more on high quality creative vision. We have discussed how resilience is built into Games education, and by extension, the developing Games industry through its focus on diversity. We have looked at how collaborative practices between technical processes and creative thinking are core to building resilience in digital studio education. Game Jams were one example of how this is enacted in Games production cultures. Changing attitudes towards game art styles, especially through the acceptance of more experimental formats via the broad cultural acceptance of independent games offers a point of connection that may be more embraced by the establishment creative arts in institutions. Lastly, the success of new formats for graduate shows explored by RMIT Games shows how ready the broader public are to engage with creative online modes of presentation, such as through interactive galleries or live Twitch streams. Moving forward, our focus at RMIT Games remains on upholding an agile and future-proof curriculum that responds to core and emergent creative industry needs through digital skills, design mindset, critical thinking, and art practice, but we hope to also provide models for the creative arts to adopt when engaging novel technologies and digital practices.

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