AN INVITATION TO REIMAGINE

True agency is the freedom to choose what to learn as well as how to learn it.


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Education (both inside and outside of school) operates as and within, a Complex Adaptive System. We need to reimagine education beyond the legacy worldviews & system structures we seek to break free of. We can start by accepting education as the complex adaptive system that it is. Just as children cannot be controlled through authority alone, or forced to learn without personal enjoyment... nor can we ignore the disruptive change emerging elsewhere. The complex adaptive system that is education, in the broadest sense (including informal + formal, school + non-school), will continue to change and respond to the external global environment, whether schools innovate or not.

Edtech has largely filled a vacuum where few alternatives exist. Edtech’s “progress or success” to date, rests squarely on its ability to provide solutions to current urgent challenges within the existing frame (a need for technology integration, balanced with increasing administration, resource shortages and remote requirements). A frame in which few other alternatives are being offered. How might the dominant discourse driven by Edtech and our own worldviews, bias and epistemology of technology be shaping our imaginations? How might we move beyond that? What if we were prepared to change ourselves as much as the system?

Technology and global change is outpacing our system.

The challenge with imagining the future role of technology within education, is that it demands of us, that we reimagine education entirely. Technology, future work, culture and life is changing exponentially faster than the pace of education reform. On every front technology is and will continue, to disrupt the status quo - not just within a learning or work space, but within modes of connection, communities of practice, pathways to agency and identity, and learning as part of the transformative social creative process.

We have the opportunity to reframe how we see the present.

It is only by embracing the uncertainty that exists between our ideas about historical order and future chaos, that we can hope to reshape the system with both the stability + flexibility that our potential futures demand. What if we found the unconventional experts, the committed outliers? What if we used future-focused structures and modes of operation that reflect the future possibility you seek to create? The focus here is global, self-driven, decentralised participatory network structures and knowledge nodes, that invite a radical rethink of education as a system.

AN INVITATION TO REIMAGINE

We need to think more critically about how we might realise technology’s inherent potential as a harbinger of future states.
CLIENT
This research is being conducted to assist the Head of Preparedness and Response, at the fictional Australian Secondary School Technology Network (ASSSN) to explore how they might leverage the real potential of pedagogical technology in the future Australian secondary school learning environment.

KEY OUTCOME
Understanding how we might think more critically about the role of technology within the context of secondary school learning; and how we might realise its inherent potential as the harbinger of future states.

LINES OF ENQUIRY
- How might future technology experiences transform pedagogies?
- What inherently human challenges does this technology surface and how might we meet them?
- Where is the key tension in the alignment of scalable pedagogical frameworks with non-linear outcomes?
- How might an increasing future reliance on technology, shape our understanding of expertise, learning and shared value in the future?
- How might technology itself help us to navigate the uncertain futures ahead?

GEOGRAPHIC SCOPE
The scope for this project focuses on the Australian secondary school market, but given the global nature of these technologies, we will look outside of Australia as part of our horizon scanning process.

TIME HORIZON
![Timeline graph showing years 2022 to 2054 with milestones and key events marked.]

PROJECT TYPE: EXPLORATORY
What role should pedagogical technology play in the Australian secondary school learning environment to prepare our students for potential futures ahead?
If technology is the answer, what is the question?

Secondary school students are preparing for a work future within a post-industrialised context where their future employment will be radically different from previous generations (and most likely, radically disconnected) from the school system within which they are being prepared. The critical question I’m exploring in this project is: what future role might pedagogical technologies play within the Australian secondary learning environment? The Australian Technology Curriculum tends to view technology as a ‘tool’ without understanding or making its true potential as a harbinger of future states. If we continue to consider technology from an instrumentalist point of view, disconnected from the broader system of social, economic, political and environmental forces within which it operates, we do both ourselves and our children a great disservice. (Beare & Slaughter, 2021)

How might we reconceptualise education to prepare our students for the future?

And now we can see that technology in this context, is the proxy for a much bigger question. Given the nature of this project it is to explore the potential role of technology within the Australian secondary school space and the complexity of exploring this question within the broader context of education as a complex adaptive system – let us frame this current assessment for clarity. 5 clicks in on Google will surface a myriad of superficial struggles for the relationship between technology and education. In order to provide a rigorous and disciplined exploration of the future role of technology that is both possible and plausible, it’s critical that we focus on both the broader educational context and technology’s current placement within it. We do this to avoid enunciating the project challenge and further down the track, jumping to simplified scenarios which neither answer the challenge in a plausible manner, nor account for the complexity in solving it.

REFERENCES

Government educational reform is driven by future market-dynamics; reinforcing the idea of education as an 'output-focused' system, thus resigning technology to the role of 'enabler'... but enabler of what?

Education is operating within a larger dynamic global system where some parts of the system are changing and increasing velocity at a faster rate than others.

**SCANNING**

**HISTORY**

**GLOBAL SYSTEM**

1987 - A key period in the development of Technology Education in Australia eventually leading to the 1994 nationally agreed curriculum which included tech as a compulsory learning area.

**AUS EDUCATION SYSTEM**

Senior secondary computing subjects were introduced.

**CURRICULUM FOCUS**

The generalised curriculum policy framework meant that courses were combined with smaller trends in ICT skills, web-based learning and learning software applications.

**ENABLING TECHNOLOGIES**

Personal computers became available in schools.

**REFERENCES**

- Technology Education in Australia 20 Years in Retrospect.
**SCANING**

**CURRENT ASSESSMENT**

**CONNECT: PEDAGOGY, CURRICULUM, ASSESSMENT AND DESIRED LEARNING OUTCOMES.**

Technology use in schools remains for the most part, at a substitution / augmentation level of adoption and seems to assume a continued status quo, driven in large part by a collective belief system about the nature of technology. New schools of thought such as eTAPACS® / TEPACK® involve a similarly self-limiting empirical approach. Technology seems to be viewed through this historically instrumental lens of ‘what is useful’ which orientates the domain of technology knowledge evermore toward a skills-based output-focused domain, neglecting the very shifts which make technology so important.  

**FRAGMENTATION + REDUCTIONIST MODELS OF TECHNOLOGY KNOWLEDGE**

Whilst there are clearly exceptions to this (both in school approaches, teacher-led pedagogies and individual curriculum decisions), technology continues to be taught in a fragmented fashion. Historically the Australian secondary school curriculum has categorised technology according to an instrumentalist output-focused approach around skills: either computer programming or design and production OR a generalised knowledge subject.

**COMPLEX CHANGE CYCLES DEMAND A MORE DYNAMIC FUTURE WORK SELF.**

We're now operating within a global system of dynamic change; where market demands, technology progress and the exponential rate of growth in access to information, multiplying of connection and global outreach is moving at a significantly faster pace than the lifecycle of educational reform.

**REFERENCES**

- Australian curriculum - Year 12 technology curriculum outline example.  
- The Digital Landscape in Australian Schools 2022 Report. Complex Education.  
- Pringle, S. (2014). A focus on students’ use of tech – their interactions with each other, content and interface. Active Learning in Higher Education.  
- NAP. Generations for Education & Learning.
TIPS (TRENDS, ISSUES, PLANS +PROJECTIONS)

The latest Campion report38 states that 50% of Australian secondary schools are utilizing both print and digital tools and resources and 30% of schools are looking to deepen their digital commitment. 92% use PDF textbooks or interactive textbooks 90% use digital learning software.

I think that technologies can and should be used to free up resources for the teacher to have interactions with students, in particular those who need more support. I do think that it would be important for the technology itself to be adaptive.

Dr. Harris Amsden, Educational Psychologist and Researcher in International Education

2013 | Google Future of the Classroom Report

PROJECTIONS

The 2023 Australian Financial Review Workforce Summit forecast reports that tech jobs continue to rise at triple the rate of the rest of the economy and Australia has a deficit of tech-capable people which surfaces an immediate challenge for policymakers as they seek to build Australian capability for these future dynamics.

Future of Work, Education and Skills report from the OECD highlight a need to shift from a static linear learning progression model to a "non-linear" dynamic model where each student has their own learning path.

PLANS

The Australian Govt 21st Skill Development information found online covers much of the WHAT, albeit lacking specific detail on the HOW. What is also apparent in reading those reports, is that they share little of the urgency or framing around 21stc skill development being utilized in the World Economic Forum or OECD reports. The updated WEF 2020 Technology Curriculum for all intents and purposes continues to be very similar to its predecessor developed in 2015.
SCANNING

TIPPS (TRENDS, ISSUES, PLANS + PROJECTIONS)
CURRENT + EMERGING ISSUES

Belonging to the Man
Most schools in Australia are either Google or Microsoft schools, and there is growing concern about the potential impact of a technology partner such as Google driving the emerging pedagogy via the technology as the starting point. There is also growing concern within the teaching community about the privacy rights of teachers as it pertains to their own personal information through the use of these systems.

The Decoupling of Learning Process and Assessment
With the likely further decentralisation of Education Systems and potential uncoupling of learning process / experience and assessment; how will education leaders and teachers assess and ensure the delivery of consistent quality for all students across the board? “The risk is that the education system will be churning out humans who are no more than second-rate computers, so if the focus of education continues to be on transferring explicit knowledge across the generations, we will be in trouble.” OECD

Emergent Education Policy
The agenda for education policy is in large part, defined by the broader labour market and economic conditions of the time. How will policymakers balance short-term government priorities with learners’ long-term interests to make the meaningful and relevant curriculum shifts that are so urgently required? Increasing complexity across technologies and future work, means a multi-disciplinary or interdisciplinary approach to technology pedagogy is critical. How will govt. education policymakers grapple with increasing pressure to change the approach, cadence and transparency of educational policymaking?

Changing Teacher Roles
How will teachers grapple with the change needed to deliver true student-centred learning? As emerging technologies continue to accelerate decentralised and redistributed systems of knowledge and influence; teachers and principals will face increasing challenges unless they’re able to redefine their roles from the keepers of knowledge, to the facilitators of practice and self-led learning. There’s the potential here for further divide between govt. education policymakers in Canberra and teachers on the ground in schools.

Human Experience V6 Pedagogy Disconnect
In the face of increasingly sophisticated human technology experiences; how will schools support students to create meaning and identity for themselves, and find purposeful work within a new future context? In what ways will governments, policymakers and education support systems need to rethink their roles and responsibilities (and potentially their own internal capability) to facilitate these emerging shifts? Given the disconnect of cadence + depth between technology progression and curriculum reform; how will school leaders navigate the ever-changing role and need to continue developing technology pedagogy to keep pace with student ‘real world experiences’?

The Slow Pace Of Oversimplification
There is growing concern amongst teachers and academia on the impacts of placing technology at the core of education innovation. Much of the dominant discourse is being driven by education technology providers (whether platform technologies like Google classroom or edtech apps such as Kahoot!), and there is a real risk that the education sector falls prey to to oversimplified notions of learning with technology packaged up by those who stand to commercially gain from wide acceptance. How will education policy providers ensure that the pedagogical debate is not being driven by the market whilst at the same time, acknowledging the lag in research reviews which leaves a vacuum for school leaders struggling to keep pace with teacher and / or student demand?
SCANNING

PRIMARY RESEARCH

THE MYTH OF PROGRESS IS ALIVE AND WELL.

Edtech is driving much of the conversation and utilising its commercial power to produce the content, training and resources our underfunded education system so desperately needs. It’s heartening to know there are people out there who have edtech’s number and understand the longterm implications of a technology-market driven approach. The challenge he highlights, that there is no real clear leadership or voice of reason, is a concerning one. How do we galvanise the educational activits of the world?
How do we connect and collaborate to address this challenge across a system with so many constraints?

TECHNOLOGY IS BOTH A MEANS TO AN END AND A WHOLE NEW WAY OF BEING

This constantly evolving digital environment necessitates not only the development of whole new sets of skills (of which there are many), but social behaviours, relational cues, workflows, habits of mind and specialised knowledge. It is both an entirely new way of being and a transformational step towards the future. It is also just the playground for those who have grown up with the pace of change, the thrill of the new and a clear understanding that what lies on the other side of uncertainty; is opportunity. Not specifically finacial (although clearly this is also true), but opportunity for deep connection, for experiencing learning and living with passion and finding your people.

INTERGENERATIONAL KNOWLEDGE TRANSFER IS DECLINING

The stark difference between the “experts” and the young learners with their colourful vibrant lived experience in this landscape is plain to see. As are the inherent paradoxes that mark the discourse. Academics muse on the lag between emerging technologies and evidence-based research to support usage and pedagogy. Teachers experiment but still believe they have to be “a step ahead”. Ahead of what? The children? The technology? By all rights they are experts, but in understanding how to support learning and scaffold young learners on their journey. They will never be able to compete with the 15 year old kids who stay up late deeply embedded in the discourse community, rifting on NFT development and the death of X (formerly known as Twitter). So then the question becomes . . . what is their role in education’s future(s)? To Luke’s point, we need the language before we can articulate our thoughts. So where is that voice? That leadership?

After talking with 3 educational experts about theories and perspectives on technology’s future role; what’s clear is that the voices of young learners are desperately missing from this conversation. The voice of young learners on the fringes, who are already engaging in non-linear pathways and taking responsibility for their own learning.

The challenging thing is that nothing about this kind of learning... looks like school.

ALL LEARNING IS VOLUNTARY

Much has been written in academic circles about the difference between the creative thinker, the gifted learner and the high achiever. What about those learners who excel at technology? Who instinctively understand when, how and why connections matter and how to make them? Who might be average performers at school and yet, in the privacy of their own channels they are vibrant, disciplined, rigorous learners with a voracious appetite for knowledge and experiences? How do we enable kids to be “seen” within a system that cannot grade their achievements in this space nor understand that amongst the chaos and the complexity, lies a far richer world which invites kids like this to take a different posture? How do we bring more young voices into the conversation? Why is this puzzle missing so many pieces?

THE HEAVY LIFT: SCHOOLS AND THEIR TOOLS

The interviews confirmed much of the previous research around obstacles and constraints within the current system. Even the best theories (with evidence based research) are divorced from the lived experience of technology, especially for young learners. Experts observed that many teachers are struggling with the practice of putting resilience and grit, into action . . . despite their class instructions to the contrary and that “technology brings this into focus”, this resonates deeply with my initial framing - that the challenge here in project, is that at its core, it is not a strictly technological problem. It’s helpful to think of the education system as a complex adaptive system, and to identify the unresolved root challenge which defines the context for this technology question. How might we re-conceptualise education to prepare our students for the future? And now we can see that technology in this context, is the proxy object for a much bigger question.

WEAK SIGNALS ON THE FRINGE

The next-best thing to being able to predict the future is being someone who is listening to those who will shape it.

NON-LINEAR PATHWAYS TO SELF-LED LEARNING AND GROWTH.

The pathways of the young learners I spoke with started with gaming & leveraged social media to create community and find their people. Not stories we often hear amongst the parental pendulum of panic and frustration.
We are operating within a complex adaptive (and human) system of policymakers, school leaders, teachers, and students with a high level of uncertainty about how best to navigate the future.

### Future Skills

**An Urgent Reframe**

The need to critically recontextualise education in order to prepare students for the possible work futures ahead is an urgent one. This urgency, however, is not shared by everyone.

### Disconnection

**Mind the Gap**

The fundamental disconnect between technology pedagogy and learning experiences is further magnified by the disconnect between students' experience of tech learning and their personal experiences of technology in a real-world context.

### Myth Of Progress

**Distructions From the Endgame**

Multi-level myths of success and progress shape much of the debate. Continued focus on core staffing issues disallows focus on the real system challenges and tech's role within. A continued distraction allows the dominant discourse to be driven by the edtech industry's continued 'learning innovation' success stories which further clouds the waters and reinforces the instrumentalist views of success that further perpetuates the myth of progress.

### Agency

**Global Citizens of Impact**

The urgent challenge & opportunity to build personal agency is critical to student futures. This extends beyond technology, 21st skills, or future readiness. We must prepare them for their role as global citizens and the fact they'll play in reshaping our relationships with the planet and with each other. We must support them to become impactful, urgent optimists.

### Decentralisation

**Everything Is Connected**

The decentralisation of educational systems, dynamic networks of power and influence, peer to peer knowledge sharing & creativity are changing the dynamics of learning. Moreover, decentralised but increasingly networked relationships and communities mean the traditional rules of power and authority (expertise) no longer apply.

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**Summary**

We're facing a global system of dynamic change, where market demands, technology progress and exponential rates of growth in information, connection & creativity for our current education system.

**Drivers of Change**

- Teachers & students' experience of tech learning & their personal experiences of technology in a real-world context.
- Continued focus on core staffing issues.
- Multi-level myths of success and progress.
- Continued distraction between technology pedagogy and learning experiences.

**Decentralisation**

- Reports into the effectiveness of Australian school autonomy suggest this has not improved student outcomes.
- Homeschooling in Australia has increased by 150,000 in the past 6 years, with an annual growth rate of 9.4%.
- Regular social media users and metaverse participants are becoming increasingly more sophisticated in their use of functions signalling presence and awareness within the spaces.

**Agency**

- The focus on successful tech integration (that substitutes) distracts from the important conversations about the real potential of tech.
- Edtech dominates the discourse in the media about tech & education, taking an over-simplification of the challenges and negating the rigorous pedagogical discussion that needs to be had.

**Disconnection**

- The recently revised Digital Subjects Curriculum (2020) has developed only marginally further than its 2015 predecessor and yet, the world has changed.
- Homeschooling in Australia has increased 150,000 in the past 6 years, with an annual growth rate of 9.4%.

**Myth Of Progress**

- 70% of Australian students use ClassZone for schools & study.
- The potential impact of platforms like Google Drive on pedagogy.
- The focus on successful tech integration (that substitutes) distracts from the important conversations about the real potential of tech.

**Future Skills**

- 9 out of 10 jobs in the next 5 years will require at least some post-secondary education.
- 47% of employment is at risk due to increasing computation.
- Tech jobs continue to rise at triple the rate of the rest of the economy.
Myth Of Progress
> Legacy Edtech has left the stable
The conservative bias of edtech systems responsible for the homogenizing myth of the 2020s that the delivery of historical, linear methods of learning via new technologies would satisfy changing needs, has been dismantled. The historical edtech market has long been recognized as inherently problematic in pedagogical approach (or lack thereof), and transparency, privacy, portability & interoperability.

Disconnection
> From harmolous carriages
Education policymakers’ historical approach of technology as an addendum to education is widely accepted as self-limiting and dangerously incorrect. Approaching this legacy, an idea of the technology as something we can shape and employ instrumentally, rather than something which shapes us. The disconnect here, is from our own history; as we come to terms with the limits of our attempts to sustain pre-digital ideas about learning and (indeed) life. Technology takes its rightful place as both a lens with which to make sense of the world, and a tool to shape our possible futures within it.

Uncertainty
> Breeds emergent resilient systems of change.
Education leaders are human lighthouses amidst a sea of uncertainty and complexity, going to war on the curriculum dichotomies of fact and skill, labeling them as polarising and incomplete foundations for possible futures ahead. Education’s role is redeployed as one of sense-making with resilient teacher / student roles as learner and teacher - interoperable dependent on context and pedagogical domain knowledge at play.

Disconnection
> Mind the Gap
The Australian Gov’t’s continued shift towards centralising school reform fails to increase changing key OECD measures. Two critical disconnects are increasing - both the gap between education policy and practice, as stretched teachers struggle to balance top-heavy reforms with the realities of teaching; AND the critical gap between the growing Edtech and future-work ready student populations.

Agency
> Global Citizens of Impact
Many economically-advantaged children attend virtual schools, or attend physical school part-time and supplement with online programs as more parents take their children’s education into their own hands.

Myth Of Progress
> Distractions from the Endgame
Australia’s ability to develop future-focused school graduates declines, and increased online learning through interoperable systems results in more students choosing international post-graduate study. Australia’s job market becomes disproportionately out of step with the global economy and Australia loses its skills crafting on knowledge / science / research work on the world stage.

Future Skills
> An urgent reframe
Australia’s ability to develop future-focused school graduates declines, and increased online learning through interoperable systems results in more students choosing international post-graduate study. Australia’s job market becomes disproportionately out of step with the global economy and Australia loses its skills crafting on knowledge / science / research work on the world stage.

Future Skills
> A wholesale reframe
Historical ideas about grading and assessment are seen as bugs of the old system & the decreasing role of intergenerational knowledge transfer opens a major shift as education leaders focus on critical sense-making skills to preparing learners for the future.

NEW EQUILIBRIUM
A pedagogical pilgrimage toward shared futures of possibility.

Future Skills
Agency

ESTABLISHED SYSTEM

Decentralisation
> You can lead from any chair. Or laptop.
A transformative shift sees the primacy of entity relationships, relationships, processes and networks as key. Learning pathways are co-created by passionate learners, domain masters and learning coaches. Students learn in their own time, asynchronously or in person, online or off or both. Every learner’s experience is different. Early models of peer-to-peer learning have given way to Peergogy: collaborative peer-to-peer learning and teaching. Like the production of agriculture, learning is recognised as a socially constructive act. The co-creation of knowledge amongst individuals, groups and participant networks within the system.

Myth Of Progress
> Disconnection from the Endgame
Australia’s edtech sector continues to grow dramatically with renewed focus across content and administration technology. The legacy myth that school education’s objective should continue logically, to be linked with future employers’ needs continues. Productivity continues to decline and consistent curriculum / testing has been achieved at the expense of capability building. Graduate numbers decline further as teaching becomes a last choice profession further reinforcing the perceived need for centralised leadership.

Agency
> Agency emerges through intentional action
Agency continues to develop through self-generated intentional action. The development of personal and collective agency through passion, curiosity and connected experiences; locates learning in the flow of agency building, alongside social connection, identity, community and shared experience. Learners connect with networked publics both individually and through self-forming collaborative pods, engaging in passionate discovery and serendipitous scholarship. This collaborative discovery and network engagement leads to shared learning experiences and deeper community building. Learners of any age, become scholars ... with young learners in secondary / high school commonly referred to as “earlywork scholars”, enjoying peer attribution and recognition on-chain, enabling them full autonomy and ownership over their work. Credentials are stacked, and there is no longer a clear distinction between learning, connecting, creating + working.

FUTURE SKILLS
> I AM the future employer you’ve been preparing me for.
Proof-of-work becomes Proof-of-Self. And by the way... proof of work, is whatever learners say it is. In the latter years of the period formerly known as ‘schooling’, learners are required to critique, maintain and generously contribute to the Knowledge Commons.

Uncertainty
> Sees the emergence of a true autopoietic global system increasing uncertainty occurs as a result of the absence of a common prescribed curriculum, which in turn increases system complexity moving forward. Knowledge networks and feedback loops continue to emerge and reform, as learners unite through engagement with inter-disciplinary problem-focused subsystems. Here learning emerges through ‘knowledge in use’, surfacing in the flow of autonomous learning experiences, scaffolded by educators. Education centres are hybrid and set up to scaffold; selected by education consumers based on access, pathway and facilitator approaches.

TECHNOLOGY EMPOWERS

POST-NORMAL TRANSFORMATION
A Relationship of Things (RoT). Education as an autopoietic system.

Agency
Welcome to 2033. Education is now completely centralised at a national level due to productivity pressures; the curriculum is highly structured and education technology has delivered clear output, administrative efficiencies and consistent assessment metrics. The role of teacher has fast become one of ‘instructing’ a tightly defined syllabus as national policymakers continue to focus in on assessment testing as evidence of reform.

However the centralisation of the education system has not led to an increase in productivity given the changing work environment. As the pace of edtech growth increases further, the rise of increasingly complex global markets and productivity begins to set a new pace. . . the Australian education system begins to significantly lag behind its global counterparts. We see this in the 2033 OECD PISA Survey, where key metrics have been redefined globally to meet evolving future requirements, and resultantantly Australian student receive their lowest scores in history.

Whilst centralised policy reform and widespread education technology has increased the efficiency of communication and assessment between schools and government, educators and teachers on the front lines have struggled to adapt. Concerned parents have increasing begun to intervene and seek alternative methods of education, either wholesale shifts to non-standard education or supplementing govt.-run education with AI tutoring and online or virtual alternatives. We see a host of international 21stC skill-based programs enter the virtual space; and the irony of the times is that whilst Edtech content management and administration technology is now Australia’s number #1 export, the majority of (socially advantaged students) are being educated by non-AUS online and virtual platforms which focus on capability development through project-based learning in a digital-native context.

Given declining productivity and stagnated teacher pay; high performing teachers are looking to international learning spaces to reskill and reconnect with future-focused educational communities and virtual educational markets.

Given the large percentages of students engaged in decentralised schooling, we observe both a widening of disadvantaged and advantaged students, along with a major increase in Australia’s brain drain as students are educated outside the traditional school system with a more global focus, and subsequently choose international post-graduate study.

Australia’s job market becomes disproportionately out of step with the global economy as Australia hits the capability ceiling inherently embedded within the current system.
LEARNING REPRESENTS A LIFELONG JOURNEY

Welcome to 2033 where the Personal Learning Paradigm (PLP) has become the single most important pedagogical framework within our learning ecosystem. Revolutionary education reform saw a global redefining of the roles of learner and leader - both now interchangeable, dependent on both the individual learner, and the context or pedagogical domain knowledge at play. Words like ‘teaching’ and ‘instruction’ have been replaced with ‘coaching’ and ‘facilitating’, and learners refer to themselves and each other as ‘scholars’. Each proudly developing a digitally recorded body of work which incorporates both node-driven project work and external curiosity-driven passion projects. Education is no longer structured into primary and secondary grade groups with a definitive end. From age 14; learners’ education pathway engagement time decreases marginally each year - as they connect with industry, government or thinktanks to supplement their bodies of work.

There is no edtech industry to speak of; but many students participate in the Critical Digital Futures Foundation (CDF), made up of both local and global nodes, which interact with all levels of industry and government. Curriculum models are digital and dynamic, offering an ever evolving global playlist of nodes within each learning narrative, where each student is free to choose their own path.

THE TECHNOLOGY OF BEST FIT WINS

Each year learners decide on their focus for the year; supported by leaders and coaches, which provides the frame through which they will naturally explore multi-discipline learning pathways on the journey towards production of an annual body of work. All learner-driven projects are developed within a real-world context and where appropriate utilise both physical maker skills, or whichever augmented reality or digital discovery tools are necessary to support the work. The choice of technology (or not), always starts with the single objective of best fit, for both project and learner.

There is no talk of the ‘role of technology’ or ‘digital literacy’, nor grading or examination. These ‘bugs’ of the old system have been replaced with continuous feedback loops of personal, peer and community reflection, which surface regularly in feedback sessions with personal learning coaches. Learning formats are flexible - mostly combinations of physical and virtual connection. Learners meet regularly face to face in local community-based groups, and also connect in with global virtual communities of practice that reflect both their chosen learning paths and personal interests beyond project work. Parents too, are connected with their children’s learning via real-world support channels which operate asynchronously, together with community members who operate on a rotating basis, either as local connection points to provide context, guidance and support within communities, or domain masters who provide specialist support within their fields of expertise.

CURRICULUM IS REPLACED BY DYNAMIC NODES OFFERING MULTI-DIMENSIONAL LEARNING EXPERIENCES

Foundational components continue to form critical parts of the pathway framework, but these revolve mostly around social emotional learning units, local & community history, and meta-learning modules (self-awareness & self-leadership as foundations for the development of agency). Like all governments, Australia contributes financially to the global learning library, but the majority of national educational spend is channelled towards the continual technology updates for every learner and leader, together with learning coaches, community node networks, and system infrastructure.

Over time Australia’s model shows itself to be a transformative investment for the economy. Most learners engage with formal education pathways until age 21 and continue to be engaged well beyond that in an episodic fashion. The reality is that most learners will continue to engage episodically throughout their lives, albeit within the informal education pathway program, and many will also choose to return and contribute themselves. Learners and leaders alike, embrace the idea of global citizenship through radical generosity and community-based learning, as the path to positive futures, instilled as strongly in them as the power of their own agency.

“The world is not a cul-de-sac.”
Paulo Freire
Education for Critical Consciousness
At OpenCampus kids create their own interdisciplinary work projects based around personal passions. For some kids, even just finding the passion can be a big step. I think one of the mandates is the selection of an wicked collaborative challenge project each year; you know, like water war strategy or climate refugees. But apart from that kids are free to pick almost anything, their learning coaches will help shape it into something robust and purposeful. They mint these projects as Scholar NFTs, so they have them on-chain as proof-of-work which they can stack for subsequent connections. And by the way... proof of ‘work’, is whatever learners say it is. Facts.

Following your weird interest to the depths of its complexity is always going to be a more engaging and transformative experience than memorising sonnets. But... I still remember the security protocols I learned when I lost my first NFT buy to a rug pull. Just goes to show you remember the stuff that was meaningful. Each student belongs to a series of learning communities-of-practice, much like the unofficial ones I cultivated for myself in the old days of discord and Slack. From what I can see, despite early misgivings from the NPCs, these OpenCampus hubs have been transformative. They offer a network of different learning mode spaces which learners can access at various stages of their project-goal pathways; super labs offer powerful physical technology, scientific equipment, creative production and manufacturing facilities; whilst immersive areas and virtual cells invite exploration at every scale, time period and subject matter imaginable. The government’s role has been reduced to community tech infrastructure and device supply. Who would have thought? The good news is that every region in the country has stable high speed internet and the latest fully subsidised laptops replaced every three years. We’re all like... digital inequality? That’s history man. It’s hard to believe... had I been just a few years younger, that I could have literally developed my own path with support from inside the system. Still, I’m not feeling hard done by, there were plenty of people in my community who stepped up or reached sideways to scaffold me. Just as I’ve done for others along the way. As for me... I’m a professional writer, can you believe that? The guy that wouldn’t do this because he was too freaked to put out his real name. Yep that guy who pretty much faked English. That’s me... Simon Renstad and now I get paid to write for a living. Not a salary mind you, it’s all attribution splits and networked commerce but it’s more than enough. And it’s just not about the money. When you work across these web3 platforms like I do, it’s the acknowledgement from people who have read your work or better still, who have built on it and included you in their creative attribution protocols (with-on-chain acknowledgement), that makes you get up in the morning.

I’m also a domain master for OpenCampus; I work across three areas - mostly Crypto, NFT design and lately, a new area I’m calling the Common Arts Collective. I co-create meta-objects and knowledge-based problem meta maps with the social science students who are really into it; I hold regular digital spaces and physical meetsups with students and learning coaches all over the world. Paid for by OpenCampus which is pretty rad. There’s a couple of guys in my crypto class who are out of this world. They’re teaching me stuff that would blow your mind. One of them is like sixteen I think and the other is only twelve. It’s brilliant. That’s the kind of stuff that makes you smile. I used to tell my mum I was a pioneer, and unbeliever to me, I might actually have been right. Facts.
EXPLORING THE IMPLICATIONS EMERGING FROM A TRANSFORMATION SCENARIO

We use the Futures Wheel to map cascading implications that may emerge from the possible future scenarios we develop. Here we explore a broad range of cascading impacts for consideration within the transformation scenario.

These Future Wheels are based on emergent ideas developed in the Transformation scenario - The Relationship of Things (RoT). Here we explore the potential cascading implications of 4 potential shifts which emerged from the Transformation scenario - The Relationship of Things (RoT). They include:

- Technology companies have privatised schools for profit.
- Educators have bifurcated into domain masters and learning coaches.
- Curriculum has been replaced with problem-based meta maps.
- Learners work is minted as ‘scholar NFTs’ on-chain.

The 4 emergent changes described here; whilst taken from the transformation scenario and thus firmly positioned in the future, are not entirely unrealistic as the seeds of these emerging changes are in fact, already visible today. The Futures Wheels enable us to explore the cascading implications and identify the challenges and opportunities these shifts present, and how they interrelate within the education system, so that we might take the next steps in determining how best to move toward possible preferred futures.

Note: These Future Wheels are presented in high resolution and can be viewed by enlarging the document size.
DESIGNING

KEY CHALLENGE SUMMARY

KEY CHALLENGE # 1 > TWO-SPEED EDUCATION SYSTEM.

In addressing the genuine transformation of education as a complex system, we are invited to consider opportunities for innovation and reframe beyond the current political, economic, social, and cultural discourse. Attempting to reimagine education within the context of legacy worldviews, binds us to the very structural definitions which we seek to break free of.

Eidee's “progress or success” to date, rests squarely on its ability to provide solutions to current urgent challenges within the existing frame (a need for technology integration, balanced with increasing administration, resource shortages and remote requirements). A frame in which few other alternatives are being offered.

As we consider the most critical issues surfaced in the Transformation Scenario, it is useful to remind ourselves that the existing framing of education’s challenges originates from a historical, locally constructed wetspring within which the worldviews that frame our understanding of education include:

- Knowledge as mostly singular & static
- Learning as linear
- Technology as tool
- Curriculum as pathway
- Assessment as the best measurement of progress
- Improved educational productivity as success

Accepting that these beliefs are localised historical worldviews rather than objective neutral standpoints, it follows that discussions around pedagogical adaption and technology integration become increasingly moot. Which is not to say that pedagogy itself is unimportant, but rather it is necessarily not the only starting point nor pathway to a rigorous future-focused learning experience.

At this stage of the project in addressing the most critical issues and potential options moving forward; it’s worth remembering that the reframing of the problem I seek to address is the one that reflects our new understanding of this future system. The possible imagined futures then, represent possibilities which are defined by how we choose to define the question. That is: How might we recontextualise education to better prepare our students for possible futures?

The challenge with a significant proportion of schools being privatised for-profit by Big Tech, is that it partially reshapes the system, leaving a two-speed education system in its wake. This is problematic for two reasons:

It reinforces the bipolarity of legacy power, influence and connection dynamics that might otherwise be reshaped by a wholesale multipolar educational system that surfaces increased international connectivity and cross-system collaboration. Big Tech’s privatisation of a proportion of schools (leaving a proportion of govt. schools within the legacy system) sees that any possible ‘transformation future’ surfaces within a bipolar world context where the local tensions between dominant political and economic systems continue to interact with what can only be, a partially reformed education system. Unlike a multipolar system where power (connection, influence and agency) would be distributed throughout the system, the bipolarity of the two-speed education system likely further increases the politicisation of education, and makes wholesale decentralisation and networked value impossible.

It further amplifies inequality as a system feature. By partially reshaping the the old system, we are left with a vacuum through which this damaging dynamic will continue to develop. Technology, future work, culture and life is changing exponentially faster than the pace of education reform. On every front technology is and will continue, to disrupt the status quo - not just within a learning or work space, but within modes of connection, communities of practice, pathways to agency and identity, and learning as part of the transformative social connective process.

Just as children cannot be controlled through authority alone, or forced to learn without personal enrolment . . . nor can we ignore the disruptive change emerging elsewhere. The complex adaptive system that is education, in the broadest sense (including informal + formal, school + non-school), will continue to change and respond to the external global environment, whether schools innovate or not. As we see in the younger generation already playing at the edges of these futures; non-linear interactions are building scale and will generate their own self-organizing patterns, eventually re-organizing and/ or initiating system change in some form.

These emergent changes will surface and change will continue, whether the individual components (legacy schools) change or not. This is the nature of complex adaptive systems. If we accept this; then we accept that the risk of radically rethinking education and considered experimentation is no greater than the alternative. That there are no ‘safe’ bets. It is only by embracing the uncertainty that exists between our ideas about historical order and future chaos, that we can hope to reshape the system with both the stability + flexibility that our potential futures demand.

In short; reimagining the education system is not something we can do by halves.
KEY CHALLENGE SUMMARY

In the transformative scenario, the converging of several key drivers of change will potentially create internal system volatility and risk for many of its participants. The takeover of a significant proportion of schools by Big Tech sees existing (predominantly) tech-centric issues around privacy and security migrate into the education space. Assumptions around decreased operating transparency and data-driven operations elevate concerns around data security and data privacy.

The recording of learner pathways on-chain amplifies concerns around historical record keeping and digital privacy, especially for young learners as they find their way. On-chain learner records offer the potential for deeper participation in the attribution economy, building on the work of others & enabling their work to be built on - shaping intellectual generosity & respect as core beliefs in a web3-orientated worldview.

The potential development of new market framing as ‘Scholar NFTs’ become tokens of ‘work-in-progress’ and education ‘proof-of-work’ become important individual assets - foreshadows a darker underside where ‘proof-of-work’ becomes the cost of entry for employment. This scenario underbelly surfaces risk around education being reinforced as ‘employment preparation’, inviting a dominant culture of system-focused achievement - the very element, the legacy system seeks to disconnect from. Divisions may emerge as historical records create disparity between young learning graduates.

A potential implication may be the emergence of new social classes characterised by a willingness (or not) to participate in this new human data economy. Here we imagine the possible rise of:

Techno-capitalists
Those content to roll with the system to full advantage.

Social Citizens
Those who focus their work and activity on-chain around collaboration and connection, ignoring the increasing tendency toward system ‘success’ metrics or employment-focused activity.

Off-Gridders
Those who reject increased data transparency and perceived on-chain surveillance as determinants of future worth. They may revolt and opt out of education altogether, going ‘Off-Grid’ in a rejection of this new world order.

In this scenario, learner data privacy becomes a critical human rights issue and must be addressed.

“Privacy is not an “option” and it shouldn’t be the price we pay for getting on the internet.”  

— Gizmo Kouchi
**KEY RECOMMENDATION #1**

**CRITICAL ISSUE #1**

Two-speed Education System

**RECOMMENDATION**

A Multipolar Posture. Fake it till you make it.

**ADAPTIVE CHALLENGE**

 Radical Acceptance. Unconventional Experts.

Disruptive Experimentation. Reflect, Rinse, Repeat, Share. Requires new learning in order to be addressed.

**WHO OWNS IT?**

This strategy should reflect a multipolar approach, incorporating both formal, informal and external actors that reflect the nature of the challenge. That is to say, the Education Futures Lab should take a multipolar posture, be decentralised, autonomous, technologically-positive and community-driven with agency for all actors, at its very core.

**FIND YOUR PEOPLE**

Given the enormity, multi-faceted and complex nature of this task - cultivating a community is critical as you begin this adventure. A solid first step would be to create an Education Futures Thinktank that includes insiders, outsiders, academics, entrepreneurs, students and curious committed strategists (both inside and outside the system) who play from both the centre and the edges.

It is also critical that Big Tech are deeply engaged with this new process. In order to mitigate lone actors (or industry) fragmenting the existing system further, we need to ensure that they are part of the solution from the beginning. Find the unconventional experts, the committed outliers. Use future-focused structures and modes of operation that reflect the future possibility you seek to create - the focus here is global, self-driven, decentralised participatory network structures and knowledge nodes, that invite a radical rethink of education as a system.

In creating this community of practice, the sum of whose scale and innovation will be far greater than any individual part... you will start not just to strategise and imagine, but to experience the future possibility ahead of you. Hire industry experts to identify, gather and cultivate deep community connection and start to build an open Knowledge Commons as the foundation step. Progress moves at the speed of trust; so get serious about developing real networked relationships with people who make you uncomfortable. Gather up the incredible thinking already being disseminated across the globe, and utilise it to create new worldviews about what and how this new system might emerge.

**SERIOUS PLAY**

Identify those key actors who are already working to redefine challenges and redraw boundaries. Consider other projects which have tackled wicked challenges (e.g. South Africa's post-apartheid remodelling through scenarios) and charge each group with the responsibility to develop a series of hypothesis, scenarios and action plans to help us meet the future head on.

Each group will develop a series of small scale considered experiments that test the edges of their hypothesis. Their experimentation will focus around a small selection of schools, teachers and methodology. They will need funding - redirect Govt. funding but also seek private contributions to bolster this think tank with both entrepreneurial input as well as financial support.

Share everything. Ask advice. Seek feedback from those who disagree. Find naysayers who push you harder. Consider the core levels of 21stc skill building and nominate a skilled facilitator to hold each group accountable - are the pushing boundaries, is the group autonomous, merit-driven and most importantly... are they building resilience by purposefully reshaping new parts of the old ecosystem?

How are they seeing the future? How are they redrawing boundaries? What conventions have they upheld and which constraints have they ignored? How are they thinking about what 'success' or 'progress' might look like? What new language is needed to articulate this new emerging landscape? How would a multipolar posture put a different lens on the ways of working and connecting? How can we incorporate the visions and imagination of Big Tech into our thesis about the future? This stage will be as much about development of the self within each person in the group, as development of the system.

**THE FIRST 3 EXPERIMENTS**

After reviewing all the current actors, their networks and participatory communities involved in the imagining, development and dissemination of alternative images of the future - select three small scale projects across the group, the three most impactful projects and scale these up across every school - public and private.

These experimental projects should not be destructive to the current system run in parallel. Just as large corporations may 'incubate' new ideas within intrapreneurial startup modules inside the larger organisation - so too, can new models be incubated within the current system.

Critical requirements during this phase will be:

- Govt. + philanthropy funding for both public and private institutions. This must be a top priority and funded adequately to ensure impactful deployment. Remember the goal here
- Considerations of access, device and existing levels of digital literacy.
- Strategic scaffolding = global community building within education, Big Tech, Govt and key actors across a multitude of networks will be critical to this implementation - both for execution and feedback loops.
- This cultivation of a multi-polar global education futures community will be critical.
DESIGNING

KEY RECOMMENDATION #2

THE PROTECTION OF CROWDS

At each point we must consider: Is this truly disruptive? How are we getting in our own way? Who wins in this scenario and who loses? Which parts make us uncomfortable? Where is the shared vision? Where else might we look for inspiration, innovation or a disruptive reframe?

A COMMUNAL META-DATA MANIFESTO

Regulation cannot keep pace with the issues emerging around privacy and security as technology increases exponentially. This first stage involves the development of a series of guiding principles around how learning (and coaching) data should be used. This includes what data is visible to and whom; which data should be recorded on-chain and the possible implications of this. It may also recommend a data strategy (and guiding schema) for individuals, learning coaches and domain masters.

The legacy system has introduced technologies and captured data (including learners’ work) with little regard for the ownership, control and management of access to that data from the user FOV. Further to that, there has been no consideration of ownership rights (of both coaches and learners) - this transformative scenario is likely to elevate these concerns rapidly.

A Meta-Data Manifesto should acknowledge all data belongs to the user who created it, regardless of circumstance. Likewise, it should seek to decouple from legacy ideas about ‘system efficiency’ and ‘feedback loops’ generated from learner data captured and utilised without permission as it is likely these kinds of frameworks will be locked upon no more kindly than retail chains using data for marketing in the future.

Whilst there is much to be considered, a manifesto is a solid first step towards intentions and guardrails, and will be critical for all actors within the system.

NETWORKED MECHANISMS OF INTENT

You’ve got your manifesto; here’s where the rubber hits the road. This phase involves the proactive collaborative development of global standardised learning metadata protocols that give consideration to:

- credibility of data
- governance or compliance (both personal and collective)
- intellectual property and copyright
- attribution and compensation
- immutable content creation as standard

Technology solutions should encompass the deliberate and non-deliberate capture of information, how information is accessible / visible, how it may be queried, stored, analysed and used.

Web 3.0 decentralised architecture offers a solution to centralised data control and ownership, it enables the decentralization and democratization of data, empowering learners to store and share their data on decentralised networks, and will enable greater ownership and control.

Likewise the use of public blockchains will ensure greater transparency, security, and simpler data lineage tracking to establish clear chains of custody. Despite these measures, there will be a continual stream of issues around provenance, authenticity, ownership and access control that will need both proactive approaches where possible, and swift thoughtful responses when not.

THE HUMAN SOLVE

Off-Gridders’ concerns in this space extend beyond data privacy protocols and provenance records. At heart, these concerns revolve around the core idea of human value. How do we value each other, what that looks like and how increasingly networked data systems may become a proxy for those value equations. Publicly.

Just as we seek to decouple the current system from the legacy workflows and mythologies around power and control, productivity and ‘progress’. So too must we work tirelessly to ensure that in scenarios like these, tokens represent connection points, flagship marks of collaboration and craft... not value judgements, corporate employment entry points or filter stage gates.

Limited higher education digital passports aside; the idea that everyone you’ve worked on during your younger years might be used to assess your ‘worth’ or economic value is understandably frightening. The manifesto and mechanisms will provide boundaries and stop gaps; but no one feels comforted by the thought that “they can’t... but they might if they could”.

This piece of work won’t be an easy solve nor a quick fix. It will require the building of new narratives around learning, what it means to progress in your own personal learning journey both individually and as part of a global collective. It will be a long process, with many wrong turns and false starts, but even the starting of this process means it matters to you. And that’s more than we can say for the current system.