

HUMAN-SCALE AT SCALE

CULTIVATING NEW
EDUCATION CULTURES

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"We have to recognise that human flourishing is not a mechanical process; it's an organic process. And you cannot predict the outcome of human development. All you can do, like a farmer, is create the conditions under which they will begin to flourish"

- Sir Ken Robinson.

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EXECUTIVE SUMMARY

HUMAN-SCALE AT SCALE

Young people are growing up in an age of extraordinary new opportunity, matched only by an extraordinary sense of uncertainty and challenge. It has become increasingly apparent that traditional, didactic models of schooling are ill-equipped to prepare young people for their 21st, and now 22nd century futures.

Consequently, education systems across the globe have seen student-centred learning designs sprouting up at their margins, having a positive impact on student's learning outcomes across both conventional and new measures. By designing schooling and learning around serving the needs, interests and passions of every single child, not just in a changing world, but in *their* changing world, these new approaches challenge the orthodoxy of what has dominated the education landscape.

While these beacons are welcome, the challenge many systems face is that these emerging models are either locked down in the periphery of systems, struggling to spread beyond their site of origin, or compromising their impact on outcomes for the sake of growth. Great education systems are not defined solely by the quality of their best, most innovative schools, but by the quality of learning experienced by the vast majority of its students. Innovation at the fringes of education is insufficient. We have a moral imperative to bring the impact of new practice and school designs to all corners of our systems. We can't continue on a path of 'boutique schooling'. We all share a responsibility for each and every child in our communities to benefit from these innovations.

The appetite for more autonomous schooling systems is providing a fertile landscape to pursue a significant system change towards student-centric, deeper and future-focussed learning. Yet, system leaders and key intermediaries must be well informed and well equipped to act on this autonomy, to achieve excellence and equity rapidly and at scale. This is the difference between a fragmented and a pluralistic system. Unless we are all committed to different and better learning for *all* students, innovation is destined to be nothing more than another source of inequality, rather than impact at scale.

The narrative around scale and spread leans too much towards the mechanics, levers and *engineering* of change. While many of these technical elements are indeed necessary - financial incentives, regulations, business cases - they are woefully insufficient on their own. What's needed, especially for innovative models of student-centred learning, is more of a consideration for what it takes to seed new mindsets, norms, behaviours and protocols in new adopter sites - a more cultivating, *gardening* notion of change.

There exists at worst a gap in understanding and at best an underestimation of the role culture plays in scale and spread. We know that any change, especially involving us humans, is intensely personal and therefore

cultural. If we are to understand how to effectively spread emerging models of learning, we mustn't neglect the cultural change journey that must be travelled by adopter sites and the people at the heart of them. There needs to be a renewed focus on the human.

Human-scale at Scale seeks to explore how to scale student-centred learning models, not just in the context of the structural mechanisms and procedures involved but also in terms of seeding, spreading and cultivating new education cultures. It explores how six innovative student-centred learning models are scaling and spreading across the USA. These stories of *Human-scale at Scale* that represent jurisdiction-led, network-led and school-led journeys. The organisations that have developed or facilitated the development of these models have, to varying degrees, succeeded in achieving not just different and better outcomes, but also adoption of their model and growth of the impact beyond their site of origin, often across districts, states and sometimes nationwide.

The analysis culminates in the beginnings of a *Human-scale at Scale heuristic*. We must stop thinking about these journeys as a science, but rather as a learning process. Rather than a modular, procedural and general framing, we must think more about how we can scaffold bespoke human-centric journeys. Rather than a rigid toolkit, some rules of thumb are needed. The hope is that this heuristic can begin to refine the efforts of philanthropies, system leaders, innovators and educators, to scale new models of learning that are student-centred and reliant on new educational cultures.

But perhaps most importantly, *Human-scale at Scale* illuminates how scale and spread is as much to do with continuous innovation and improvement as it is about best practice; as much to do with social learning as it is about high quality implementation processes; and as much to do with educators development of new, local knowledge, as it is about them responding to what is known more broadly. Rather than having change done to them, (whether through compliance or incentives), there is an intrinsic value in empowering educators to become leaders of the change in their local contexts and beyond. Recalibrating how educators go on their journey towards a new way of working can create space to consider what cultural shifts are necessary.

Intermediaries, be them venture philanthropists, local and central governments agencies or non-for-profits, must move beyond the compliance, dissemination and replication strategies of old. Command and control has a severely limited return when seeding and cultivating new education cultures. But that doesn't mean they should get out the way and leave schools and educators to travel this journey alone. A balance must be struck in which intermediaries adopt a new *modus operandi*: one of *stewardship*. They must move from rigid interventions to more agile and dynamic initiatives which both enable and support system and school leaders to travel a journey with their educators. They must be both catalysts and guardians of change, experts and fellow learners, provocateurs of both idealism and realism, critical friends as well as financiers.

With intermediaries as stewards of change, we can better devise strategies that speak to all necessary aspects of scale and spread - both the technical and the cultural. By coming at the challenge as a community of stakeholders who all bring strength and assets, knowledge and ignorance, we can travel the journey towards scale and spread together.

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1. REIMAGINING LEARNING. AT SCALE

WHAT'S ALL THE FUSS ABOUT

Young people are growing up in an age of extraordinary new opportunity, matched only by an extraordinary sense of uncertainty and challenge. They have front row seats to some of the most seismic societal and environmental shifts we have ever seen. Valerie Hannon, of Innovation Unit, has explored the trends shaping our futures - around which there is strong consensus from scientists and analysts around the world - and unpicked what this means for both the *how* of education, but also importantly the *why*?

In her book, *Thrive*¹, she identifies three great pivots:

- Our entry into the Anthropocene Age - a new epoch of geological time in which human activity is considered the dominant force shaping the Earth;
- The apotheosis of technologies - the power and penetration of technology to reshape the world has attained unprecedented levels.
- Human capacity to influence our own evolutions - the convergence of the life sciences with the digital explosion has created the capacity to reshape the very fabric of life.

In and amongst these seemingly existential shifts, young people are being exposed to growing disaffection with 'the establishment'; alienation caused by globalisation; the march of extreme politics; stagnant wages mixed with growing inequality; and crumbling democratic processes. These dark realities are all awkwardly juxtaposed with a sense of unlimited potential that comes from the technological leaps forward: 100-year life spans; the terrifying yet exciting new world of artificial intelligence; our capacity to shape our own biologies through genetic engineering, along with the unknown ripples that come with them.

It would appear that the question of our time, for education especially, is how can we learn to thrive in a transforming world?

So how is our age old education system fairing in this new world? Well, as inequality in outcomes persists, employers voice their concerns, and improvement by its own measures stagnates², it has become increasingly apparent that traditional, didactic models of schooling are ill-equipped to prepare young people for their 21st, and now 22nd century futures.

Now this isn't new. In fact, it's been talked over time and time again. And the good news is that there are lots of emerging and wholly different approaches that are showing promise - demonstrating the innovative capacities of systems and their educators by the way(!). These innovative approaches are genuinely responding to the challenge of thriving in a transforming world by reimagining schooling and learning.

[1] Hannon, V with Peterson, A (2017) *Thrive: Schools Reinvented for the Real Challenges We Face*. Innovation Unit Press.

[2] Barber, M and Hill, P (2014) *Preparing for a Renaissance in Assessment*. London: Pearson.

FROM THE MARGINS TO THE MAINSTREAM

But importantly, we know that great education systems are not defined solely by the quality of their best, most innovative schools, but by the quality of learning experienced by the vast majority of its students. The challenge many systems face is that these emerging models are either locked down in the periphery of systems struggling to spread beyond their site of origin, or compromising their impact on outcomes for the sake of growth.

This scaling challenge is *also* nothing new. It's *also* been talked over time and time again. We know more than ever before about which structures and mechanisms can contribute to achieving scale, and importantly in which context. From social impact bonds to pump-prime funding, social franchising to platform-centric networks, scaling strategies are increasingly sophisticated, circumstantial and key levers for broader system change. Yet opportunities and funding continue to be squandered, with impact at scale often falling short of expectations and necessities. So what are we missing?

Chapter 2 offers an in-depth analysis of where the literature and conventional wisdom has got to, while also outlining in more detail what *Human-scale at Scale* is all about. There exists at worst a gap in understanding and at best an underestimation of the role culture plays in the scale and spread of innovations in education. We know that any change, especially involving us humans, is intensely personal and therefore cultural. Yet there are a set of dominant assumptions that undermine this truth.

Perhaps most damaging is the assumption that scaling any innovation is linear and procedural, rather than iterative and relational. This is particularly unhelpful in education, where human relationships are a cornerstone of practice and play a fundamental role in determining outcomes.

"One thing we can probably count on is the primacy of relationship. For most of us, learning is relational—it's motivated and supported by relationships. Human connections inspire interest, power persistence, and guide progress³"

— Tom Vander Ark, CEO, Getting Smart

Profound learning and great teaching are ultimately predicated on the power of human relationships. This is part of what makes teaching both an art and science: it is as much about quality of the journey - the communities and relationships it creates - as it is about quality of outputs.

If we are to understand how to effectively spread emerging models of learning, we mustn't neglect the cultural change journey that must be travelled by adopter sites and the people at the heart of them. There needs to be a renewed focus on the human.

[3] [Vander Ark, T \(2017\) What is curriculum? From Managed Instruction to Personalized Learning. EdWeek.](#)

LEARNING FROM HUMAN-SCALE AT SCALE

Often, the best way to learn about complex issues such as this is to examine cases at the extremes. And when it comes to the role of culture change, models that put students at the absolute centre of learning and are built on strong, meaningful relationships seem like fertile land.

The *student-centred learning* movement represents some of the emerging innovative approaches and school designs that are reimagining schooling and learning. Broadly understood, it is a movement that looks to put the learner, rather than the teacher, at the centre of the educational experience. By designing schooling and learning around serving the needs, interests and passions of every single child, not just in a changing world, but in *their* changing world, these new approaches challenge the orthodoxy of what has dominated the education landscape. The USA in particular has seen a growing appetite for student-centred learning, with a variety of different forms evolving and growing over time.

“Unified by curiosity, creativity, and boldness, growing numbers of intrepid innovators are creating learning environments that adapt and adjust to meet the needs of each and every child⁴”

— Education Reimagined

These innovative student-centred learning models have demonstrated impact both in terms of traditional measures of success - engagement, academic attainment, literacy and numeracy rates - but also in terms of new learning outcomes like student agency, metacognition, self-direction and deeper learning competencies.

Human-scale at Scale explores how a range of these innovative student-centred learning models are scaling and spreading across the USA. The organisations that have developed or facilitated the development of these models have, to varying degrees, succeeded in achieving not just different and better outcomes, but also adoption of their model and growth of the impact beyond their site of origin, often across districts, states and sometimes nationwide. We look at six stories of *Human-scale at Scale* that represent journeys which are:

School-led	High Tech High
	Summit Public Schools
Network-led	Big Picture Learning
	New Tech Network
Jurisdiction-led	New York City iZone
	Lindsay Unified School District

[4] <https://education-reimagined.org/>

The appetite for more autonomous schooling systems is providing a fertile landscape to pursue a significant system change towards student-centric, deeper and future-focussed learning. Yet, System Leaders and key intermediary organisations must be well informed and well equipped to act on this autonomy, to achieve excellence equitably, rapidly and at scale.

Each of these stories of *Human-scale at Scale* offer learning from different models, different contexts and different stages of maturity. As a collective, they offer a rich set of insights that can help us to better understand how to scale and spread the impact of high quality student-centred learning, not just in terms of structures and procedures, but also in terms of seeding, spreading and cultivating new education cultures.

THE MCDONALD'S EFFECT: STANDARDISATION AND REPLICATION

Let's take a moment to understand the origins of student-centred learning. Believe it or not, a helpful place to start is a McDonald's restaurant. Consider how every time a customer walks into any of McDonald's 36,615 restaurants worldwide, they will generally have the same customer experience. That's no accident. Standardisation has been a key part of the McDonald's business strategy. They have replicated the same processes, procedures and protocols that make being a McDonald's customer the same everywhere. This scaling strategy exists across the service industry - whether it's a global fast food organisation, a coffee shop chain or a Swedish flat-pack furniture store. Being able to guarantee a particular experience and quality at scale is a valuable endeavour for these providers.

In a similar vein, education systems globally have spent the last couple of decades pursuing standardisation. Public service reform movements in advanced OECD nations (particularly the UK, US and Australia) have been broadly represented by what's known as New Public Management (more recently dubbed Deliverology⁵). Drawing from 'businesslike' practices, governments have sought to run public services through tight performance and accountability measures.

While these strategies may raise the baseline of standards, they also have perverse side effects. New Public Management is, in theory, agnostic about the *how* of service delivery. But the extent to which it seeks to standardise outcomes in narrow terms often creates a *de facto* standardisation of the service itself. This logic is why a 'replication' mindset has become the primary narrative in scaling impact - following the same processes, procedures and protocols of a particular model that has proven to deliver impact at the baseline.

"Education reform in the United States has tended to place this problem [the aspiration of equal opportunity] at the feet of schools; the role of systems has been to provide the data that exposes the 'achievement gap', and to create the higher standards to be met⁶"

— Amelia Peterson, Education Redesign Lab,
Harvard Graduate School of Education.

[5] Barber, M. Kihn, P. and Moffit, A. (2011) *Deliverology: From idea to implementation*. McKinsey & Company.

[6] Peterson, A. (2015) *Personalizing Education at Scale: Learning from International System Strategies*. Education Redesign Lab, Harvard Graduate School of Education.

Now this is okay, if you want the same experience for all your service users, or in the case of school, your learners. And many school models have benefited from this, demonstrating success in raising attainment levels through delivering rigorous, standard learning offers. But what if there is intrinsic and different value in having a more personalised experience? One where standardisation of experience isn't the goal?

WHAT IF THE GOAL ISN'T ONE SIZE FITS ALL? BEING TOGETHER, NOT THE SAME

Student-centred learning as a pedagogical concept can, in various forms, be traced back to the ideas of Dewey, Vygotsky and Freire. But its renaissance in the past decade can perhaps be best attributed to four trends:

- a response to the perversities of the 'McDonald's effect';
- the potential that comes with the unprecedented technological advancement of recent years;
- advances in neuroscience which highlight how learning trajectories are not linear; and
- the elevation of new student outcomes that are at the heart of student-centred learning.

Efforts to create a consistency and quality of learning through standardisation and high accountability measures has, in many circumstances, caused concern about the perversities that come with it. Or as Yong Zhao puts it, the "side effects of 'what works' in education"⁷. Teaching to the test, endemic disengagement, disposable knowledge, a sacrifice of depth for breadth, and unprecedented levels of exam stress and anxiety, all raise questions about the collective virtue of standardisation efforts. Above all perhaps, is the realisation that through these well-intentioned efforts, we have forgotten that each classrooms in every one of our schools is made up of students with varying interests, backgrounds and learning needs. To fulfil our promise to these students, learning designs must be every bit as diverse as they are.

Meanwhile, in just the last few decades, technology has made mass-personalisation feasible across industries. The dominant tech firms of the early 21st century - Apple, Facebook, Google - have all capitalised on the potential of personalising the experiences of their users. Apple created operating systems that acted as platforms for users to essentially construct their own handheld devices through the *apps* that we've come to know and love. Facebook turned online social connectivity into a profile-centric and malleable platform. Google utilised internet browser cookies to personalise its search engine capabilities and make scouring the web a more individualised experience. The fundamental principle behind each of these endeavours is that their users can be together, but don't have to be the same, or have the same experience. The same potential lies in the education space. Digital platforms and learning management systems are creating the potential for customisable, differentiated, and truly personalised content for each individual student. Online digital resources provide the opportunity to blend learning, and free up teachers to provide bespoke support for each and every student. Advances in these technologies and digital content have put individualised, differentiated and personalised learning within reach for an increasing number of schools.

Technological advances have also had a profound impact on the education research world. In particular, new tools in brain observation and genetics has brought together neuro and cognitive science, human development and education into a powerful trans-disciplinary field never seen before. What's now referred to as Mind, Brain, and Education (MBE)⁸ is producing evidence that learning trajectories are not linear. It is providing insights that both support the principles behind student-centred learning, and help to strengthen associated teaching and learning practice. It's advocates argue that MBE will lead to better choices for how to teach and to facilitate learning, including specification of different learning pathways for different learners.

[7] Zhao, Y (2017) What works may hurt: Side effects in education. Journal of Educational Change.

[8] Fischer, K. W. (2009). Mind, Brain, and Education: Building a Scientific Groundwork for Learning and Teaching1. Mind, Brain, and Education, 3(1), 3–16

And crucially, behind all this lies a slow but steady elevation and broadening of success criteria. Outcomes such as student agency, metacognition⁹, self-direction and deeper learning competencies¹⁰, have been given significant currency by Higher Education institutions, employers and civil society more broadly, who have voiced their concerns about students not being prepared for the demanding and complex societies they do and will inhabit.

"In the 2030s, when these kids are graduating, they're going to have to be highly independent, very dynamic, able to know themselves and get from the world what they need to be happy and successful. They need to start exercising that muscle in preschool"¹¹

— Max Ventilla, Founder and CEO, Alt School

While student-centred learning models are just one path to go down, they nonetheless offer a strategy for cultivating these broader attributes/outcomes.

The above four factors together - along with a series of policy interventions of mixed contribution and success - have created the conditions for a rising tide of student-centred learning models across the USA. Models vary in focus, ambition and form, but have a core set of beliefs that seek to break from the traditional education experiences of the past, and reimagine schooling and learning for every young person.

STUDENT-CENTRED LEARNING: A BROAD CHURCH

Those working in the field of education know how easy it is for an idea to become a fad. While popularity is usually a good sign, it also risks your innovation or idea becoming bastardised versions of a once tight and pure concept. Student-centred learning certainly hasn't been immune to this. Because of its unwieldy nature, many claim to be 'student-centred' in their mindset and practice, but all in all remain firmly in the old order of teacher-led learning.

Without clarity of concept, we run the risk of being led down a rabbits hole. So let's try and unpack what we actually mean by student-centred learning. Although the fact that the field of education does not yet share one common definition for student-centred learning (the interchange between that and personalised learning says it all) poses a challenge, it's not a fatal one. There is strength in this 'broad church', with lots of entry points that make sense in lots of different contexts. Of course, the artistry comes in how you apply an idea to your context while still achieving the impact that idea has generally set out to achieve.

Conceptually, student-centred learning is best understood in terms of individualisation, differentiation and personalisation. Much confusion around the differences of these '*terms du jour*' and their implications for teaching and learning led Barbara Bray and Kathleen McClaskey of Alberta Canada¹² to create their now widely shared matrix:

[9] Fadel, C. et al (2015) Four Dimensional Education. Center for Curriculum Redesign.

[10] http://www.hewlett.org/wp-content/uploads/2016/08/Deeper_Learning_Defined_April_2013.pdf

[11] <https://www.fastcompany.com/3028073/how-this-startups-micro-school-network-could-change-the-way-we-educate-now>

[12] <https://education.alberta.ca/media/3069745/personalizationvsdifferentiationvsindividualization.pdf>

PERSONALIZATION	DIFFERENTIATION	INDIVIDUALIZATION
starts with the learner	starts with groups of learners	starts with the need of an individual learner
connects with interests, passions, and aspirations	adjusts to learning needs of groups of learners	accommodates learning needs of the individual
learners actively participate in the design of their learning	explicit instruction based upon learning needs of groups of learners	explicit instruction based upon the learning needs of an individual learner
learners have a voice and choice on what they learn	teachers create or adapt instruction and choose roles for learners based on different needs of learners	teachers customize lessons and tasks for learners based on individual needs
different objectives for each learner	same objectives for groups of learners	same objectives for learners with specific objectives for individuals who receive one-on-one support
learner selects appropriate technology and resources to support their learning	technology and resources are selected to support the learning needs of groups of learner	technology and resources are selected to support the learning needs of an individual learner
learners build a network of peers, experts, teachers and paraprofessionals to guide and support their learning	learners are reliant on the guidance of teachers to support their learning	learners are dependent on individual teachers or paraprofessionals to support their learning
competency-based models where the learner demonstrates mastery	based on Carnegie unit (seat time) and grade level	based on Carnegie unit (seat time) and grade level
assessment AS learning	assessment FOR learning	assessment OF learning
teachers develop capacity to create independent learners who set goals, monitor progress, and reflect on learning and summative assessments based on student mastery	assessment involves time-based testing and teachers provide feedback to advance learning	summative assessment is grade-based and involves time-based testing which confirms what learners know and don't know

What Barbara and Kathleen provoke is the notion that student-centred learning requires a drive towards the personalisation end of the matrix, in which the focus is on the learner, not solely the type of instruction. It is the notion that student-centred learning can only be so if there is a distinct and meaningful move away from teacher-centred models.

In a similar vein, [The Institute for Personalized Learning](http://institute4pl.org/?da_image=144) pursues a type of student-centred learning that goes beyond both differentiation and individualisation, adding further conceptual clarity through their Personalized Learning Honeycomb and change strategy¹³. The Honeycomb unpacks student-centred learning, identifying what it means on three levels:

- learning and teaching;
- relationships and roles; and
- structures and policies.



Of course, in practice student-centred learning models blur across the above conceptual frameworks, taking the form of a multitude of designs, pedagogies, learning experiences and teaching practices. The most advanced and well-established examples of student-centred learning practice include competency/mastery-based learning, blended learning, project-based learning and passion-led, real-world learning, all of which feature in the stories of *Human-scale at Scale* in chapter 3 and are nuanced in how schools have pursued them.

To navigate the application of student-centred learning concepts in practice, Education Reimagined's practitioner's lexicon for learner-centred models¹⁴ provides a fantastically helpful common framework for understanding what is meant by some of the key elements at the heart of emergent learner-centred models.



[13] http://institute4pl.org/?da_image=144

[14] <https://www.educationevolving.org/files/events/Education-Reimagined-Practitioner-Lexicon.pdf>

As student-centred learning can manifest in various ways, the above frameworks are helpful in ensuring that there is some common language, elements and themes across this broad church, and that we're, albeit loosely, all on the same page.

CONTINUED PROGRESS, PROMISING EVIDENCE

The multiplicity of this broad church makes it a challenging concept to coherently pin down and test. The pace at which it grew also left the research world slightly behind the pace. While there have been some significant studies, the evidence behind student-centred learning remains thin.

The most comprehensive piece of research that evaluates student-centred learning to date was produced by the RAND Corporation in 2015. It focused specifically on a select number of what they consider to be 'personalised learning practices': learner profiles; personal learning paths; competency-based progression; and flexible learning environments.

The RAND report's findings¹⁵ are largely positive and promising. They indicate that compared to their peers,

"Students in schools using personalised learning practices are making greater progress over the course of two school years and that students who started out behind are now catching up to perform at or above national averages."

— RAND Corporation

Needless to say, caution must be taken in interpreting this data. Schools are complex systems with lots of different inputs and contributing factors at play. Isolating the causal effect of a set of practices such as those identified in the RAND report is far from easy - if possible at all (there are limits to Randomised Controlled Trials!).

Organisations which are looking to promote and scale their own models are having to invest in bulking out that evidence base, and making it specific to their particular style. Whether student-centred learning is a bonafide solution to stagnant improvement in student outcomes at scale is still up for debate. But there is enough to go on to give confidence that moving learning in this direction has immense potential, not only in motivating and engaging learners, but in recasting how mass education could be managed and organised.

To be clear, the stories of *Human-scale at Scale* are not attempts at identifying any particular version of student-centred learning as better. In each case, it's important to be thoughtful about to what end we are looking to scale new approaches to learning, and how that *purpose* is most relevant to the ever changing world our young people will inherit.

[15] Payne, J.F Steiner, D.E Baird, M.D and Hamilton L.S (2015) Continued Progress: Promising Evidence on Personalized Learning. RAND.

MULTITUDE OF PURPOSES - TO WHAT END?

As I write this, I'm hearing teachers across the globe scoffing, saying "I'm constantly differentiating in my class", or "I always take students passions and interests into consideration". Certainly many teachers do, but they are often doing so in spite of the learning model, school design and culture in place around them, not because of it.

Regardless, those scoffs raise an important point. There is plenty of student-centred learning practice being developed within classrooms that are pioneered by educators who broadly accept the constraints of the existing landscape and simply make do. These strategies tend towards pursuing higher academic attainment on conventional terms, within the existing paradigm. This is innovation for improvement.

There are however stories in which student-centred learning models have been adopted with the explicit intention of transforming schooling and learning, moving *beyond* the existing paradigm - pursuing broader learning outcomes in addition to higher academic attainment in conventional terms. This is innovation for transformation.

Student-centred learning, learner-centred education, personalised learning, whatever you call it, can represent a lever for both improvement and transformation, for raising the quality of schooling and learning, and reimagining it all together.

Both improvement and transformation are tricky endeavours in and of themselves. Each of the stories of *Human-scale at Scale* vary in ambition and how far they are along their journey. Some offer more transformative models, others avoid straying too far from the pack. While each have a common commitment to putting students at the centre of their own learning, their varied stories offer unique learnings of what it takes to scale and spread.

WHAT DOES HUMAN-SCALE AT SCALE SEEK TO UNCOVER?

While student-centred learning is gaining momentum, particularly across the US, there is still a debate as to how organisations can best scale and spread their models, not just in name, but in impact and deep, long-lasting change.

There is lots to be said about the knowledge that currently exists around the scaling, spreading and diffusion of innovation, and chapter 2 unpacks this in more detail. But what *Human-scale at Scale* is specifically looking to uncover is what's missing from our understanding of how innovations in education have sustained *impact* at scale, especially if the innovation in question is reliant on deeply human interactions.

The overall hypothesis from the start has been that any change, especially that which involves us humans, is intensely personal. Yet the dominant scaling convention assumes that adopting a new innovation is mainly a technical and procedural endeavour, rather than a cultural and relational one. This assumption is particularly unhelpful in education where human relationships are the cornerstone of good practice and play a fundamental role in determining outcomes.

The extent to which culture change plays into the mind of Reformers is too often constrained to the system level: 'what system culture allows innovation to thrive in the first place?'. But what about the culture change of

the humans involved in the innovation itself: 'what are the mindsets, norms, behaviours and protocols that they need to both adopt and embrace to sufficiently embed the new innovation at the required depth?'

Is the fact that achieving this depth can be expensive and slow driving Reformers to turn their attention to the more technical, light-touch and shallow strategies for scale? Has the tension between breadth and depth become too much for Reformers?

"The capacity building at multiple levels of the system that may be necessary for depth and reform ownership is likely to be expensive and resource-intensive, which may limit developers' ability to expand as broadly"¹⁶

— Cynthia Coburn, Professor at the School of Education and Social Policy, Northwestern University

But for innovations that are deeply human, like student-centred learning, surely culture change is a necessity, a foundation of these new ways of working that justifies an investment? There's also lots to learn from taking on and adapting to a new ecology. It requires individuals to *experience* the change and understand it on/in their own terms. There's intrinsic value from travelling the journey.

The purpose of *Human-scale at Scale* is to elevate the human and cultural dimensions of scale that may prove critical to the successful scale and spread of student-centred learning models, and their impact on young people's lives. But the hope is that it's implications can be more far-reaching.

In essence, *Human-scale at Scale* hopes to achieve 3 things:

1. Fill in some gaps in knowledge around what it takes to scale the impact of successful student-centred learning models, by understanding what it takes to seed, grow and sustain new education cultures.
2. Draw some insights that contribute to understanding how to scale human-centric innovations beyond the world of education.
3. Bring a renewed focus on the human - elevate the importance of culture change journeys in how to scale innovations, in response to the dominance of technical perspectives.

The dominant paradigm is a technocratic one: scaling and spreading innovations is seen to be predominantly about implementing to a high fidelity and doing so using 'replication toolkits' or other technical products - it's about following a modular play book. But we need to work as hard on the culture as we do on the technical side of innovation. Structures and processes make scaling workable, but culture change makes it stick and have impact. We need to learn more about how to accelerate cultural change and do it well, at scale.

[16] Coburn, C (2003) Rethinking Scale: Moving Beyond Numbers to Deep and Lasting Change. Educational Researcher Vol. 32 No.6.

Undoubtedly,

"Innovation is the art of interesting an increasing number of allies who will make you stronger and stronger"

— Steve Woolgar, Senior Research Fellow at Saïd Business School, University of Oxford.

And consequently, scaling is the art of supporting an increasing number of those allies to travel a journey, find intrinsic value in the new idea, and embed the practice and culture in the everyday way they do things.

2. INNOVATION, EQUITY AND SCALE

“YES, BUT CAN IT SCALE?”

The truth is, we're very rarely short of solutions to the problems we face, be it in Health and Social Care, Sustainability, or indeed Education. Our ability to be creative problem-solvers in the face of complex challenge is seemingly endless. Yet, what has continued to elude us is how to support the solutions that have succeeded at the margins, to become mainstream and achieve impact at scale.

Scaling a new product, practice, pathway or model is easier said than done. Enthusiasm for the idea, evidence of its impact and a compelling case for change, while all absolutely necessary, are no guarantee for scale, nor sustained impact at scale for that matter.

From Philanthropic Foundations to Central Government Departments, Service Providers to Consultancies, the question of how to scale new innovations has challenged and perplexed. It's become somewhat of an obsession of many, to the point where innovators, before they can even bask in their own genius, are being pestered with the question “yes, but can it scale!?”.

Despite over 50 years of research, instigated by Everett Rogers' seminal book *Diffusion of Innovation*¹⁷ way back in 1962, with the more recent Trish Greenhalgh systematic review *Diffusion of Innovations in Health Service Organizations*¹⁸ paving the way for more applied thinking, we are still at odds about how best to scale, spread and diffuse innovations.

Scaling: increasing the size or sector share of the organisation providing the innovation

Spreading: the innovation displacing existing practices, procedures or devices

Diffusion: the permeation of a sector or system by the innovation

Integration: combining an innovation with corresponding systems, infrastructures and other innovations.

Our understanding of the potential mechanisms and levers to achieve scale have become more sophisticated, yet opportunities and funding continue to be squandered, with impact at a system-level often falling short of expectations and necessities.

WHY IS THE SCALING CHALLENGE SO PERSISTENT?

Intuitively, this feels like such a bizarrely persistent issue. Why wouldn't new ideas that have proven impact be adopted more broadly and have the same impact in their new contexts? Turns out, our simple intuitions are far off the mark and there is a complexity at play that needs ongoing attention and serious unpacking.

[17] Rogers, E. M. (2003) *Diffusion of innovations*. New York: Free Press.

[18] Greenhalgh, T et al (2004) *Diffusion Of Innovations In Service Organizations: Systematic Review And Recommendations*. The Milbank Quarterly (82: 581–629).

There is all too often an underestimation of the extrinsic factors at play. Many innovators are baffled at how their idea hasn't miraculously 'reached scale', often citing the virtuous characteristics of what they've developed. Whilst the intrinsic qualities of an innovation - desirability, feasibility, viability and 'core simplicity'¹⁹ - may make it more likely to be adopted, whether an innovation actually goes to scale also depends on a whole set of other factors, that are external to the innovation. Often, little attention is paid to what is called the *ecosystem*²⁰ and the system conditions which act as either barriers or enablers to scale. Regulatory environments, policy initiatives, financial incentives are but a few of the factors at play.

Another underestimation is how much innovators are typically focused on, well, innovating. They aren't always equipped with the foresight, nor patience, necessary for scale. This can mean that plans for scaling have not been built into the idea from the outset, and come as an imperfect afterthought.

The sheer complexity of the question "can it scale?" can quickly engulf you. To even begin to formulate a strategy, innovators and those supporting them have to consider a seemingly endless list of factors, all of which are context-specific and fluid:

- **Cases for change:** new ideas need a clear and coherent reason to exist.
- **Evidence:** new ideas need to be able to prove their worth in terms of impact.
- **Supply-side:** there is a level of support required for new ideas to flourish.
- **Demand-side:** there is a level of demand required for new ideas to flourish.
- **Dissemination of information:** new ideas and their virtues need a way to travel.
- **Push & pull levers:** new ideas can be pushed upon adopters, or they can pull them towards it through incentives.
- **Business cases:** new ideas need to be proven viable, both financially and logistically.
- **Ecosystems:** new ideas always belong to complex webs of interconnected systems, for better or worse.
- **System-Innovation fit:** new ideas need to 'fit' within existing (and new) systems and contexts.
- **Displacement:** new ideas need a clear position on what activities the innovation may displace and how to stop old ways of working.
- **Organisational change:** new ideas often need organisations to change how they are run.
- **Behavioural change:** new ideas often need people to change how they behave.
- **Compliance/power:** new ideas exist within a web of power relations that can work for, and against.

This is by no means an exhaustive list, but one that highlights some headline factors that many will be familiar with, and illustrates the sheer complexity of the quest.

[19] Rogers, E. M. (2003) Diffusion of innovations. New York: Free Press.

[20] Clayton, R (2016) Building Innovation Ecosystems in Education to Reinvent School. WCMT Fellowship: Education Futures. Found [here](#).

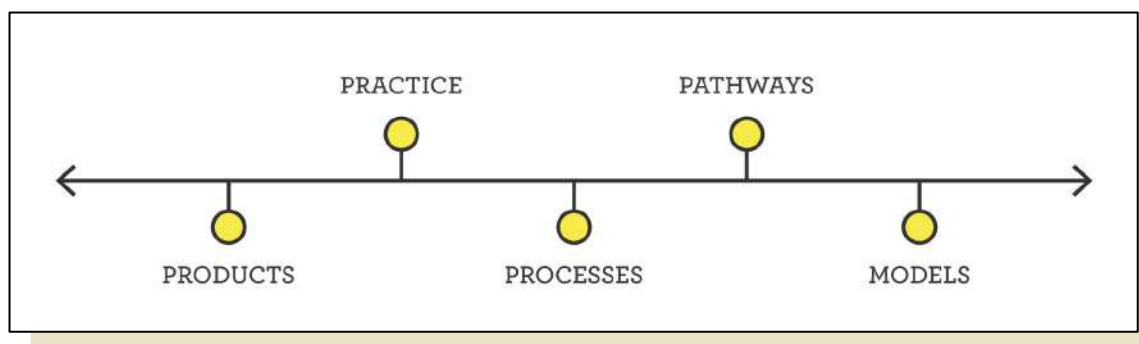
SIMPLIFICATION IS A FOOL'S ERRAND

Needless to say, this is complex and challenging work, and remains highly contested. Perspectives and philosophies for scaling innovations vary. Yet there is one trend that feels fundamentally important to mention, and increasingly at odds with the experiences of those trying to move their ideas and impact from the margins to the mainstream.

There appears to be a dominant perspective within this field that the best response to the inevitable complexity and 'messiness' associated with scaling innovations is to commit resource to developing modular, procedural and general scaling strategies. The logic is that scaling is essentially a technical exercise, one that requires people to follow a simplified procedure, and do it a particular way.

This 'cookie-cutter approach' has led to a wave of 'scaling toolkits', the elevation of 'codification' as a silver bullet, and an obsession with 'replication'. The side effects have been that scaling is increasingly perceived to be a transactional process. The risk is that this ends with scale by name, but not necessarily by impact. This superficial take-up will often fall short of an innovation's full potential.

Such a commitment to simplifying and generalising feels even more inadequate, when you consider innovations other than discrete products/technologies which have been developed through a traditional research and development process. There is a whole spectrum of innovation types that require unique and more sophisticated and dynamic strategies for scale. The scaling strategy for a piece of technology is unlikely to resonate with the thinking of how to scale more complex, multi-dimensional and social innovations such as new pathways and models, which have lots of moving parts and rely more fundamentally on human behaviours.



IT'S TIME TO EMBRACE MESS

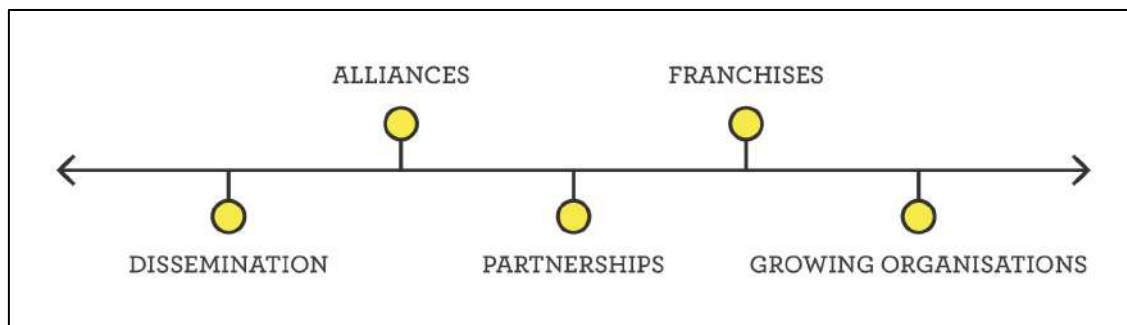
There is a necessity to embrace this inherent complexity - conceptually as well as practically. In doing so, it becomes clear that there is no set *right* or *wrong* approach to scale innovations, and it is almost certainly dependent on the type of innovation, the context at the time and the interplay between the two. What this then leads us to is a broader and more nuanced understanding of routes to scale, beyond the technical.

"Managers are not confronted with problems that are independent of each other, but with dynamic situations that consist of complex systems of changing problems that interact with each other. I call such situations messes...Managers do not solve problems, they manage messes²¹"

— Russell Ackoff, Operations Theorist

Depending on the type of innovation and the ecosystem/sector/industry within which it is operating (each of which have different networks, levels of competition and collaboration, cultural norms and behaviours, as well as rules and regulations), there are different strategies, approaches and attitudes to scale.

A helpful starting point for thinking about scaling in this more pluralistic way is a continuum of 'operational models' as seen below. It offers a breadth of paths to scale, ranging from growing a single delivery organisation, to approaches which are more networked and fluid and involve many organisations and whole movements.



"If we want to talk meaningfully about the growth of social innovations, then it is necessary to talk about specific types of social innovation, each of which will have its own distinct language for growth and associated literatures²²"

— Anna Davies & Julie Simon, TEPSIE Project,
The Young Foundation.

Yet this is still insufficient. Within the above categorisation, there remains a complexity that is best dealt with by unpacking and acknowledging the layers involved in thinking about scale and spread. We must embrace the complexity and better understand how to navigate it.

[21] Ackoff, R (1979) The Future of Operational Research Is Past. Journal of the Operational Research Society 30, no. 2: 93–104

[22] Davies, A and Simon, J (2013) How to grow social innovation: A review and critique of scaling and diffusion for understanding the growth of social innovation (Paper prepared for the 5th International Social Innovation Research Conference).

A TYPOLOGY FOR SCALE

Of course, embracing complexity in the abstract can only take us so far. At some point we must map and organise our knowledge to help more people navigate the mess. The below is a proposed typology for scale that captures the different layers of thinking, and which can help to embrace this complexity and consider which bespoke strategies are most suitable.

Infrastructures for scale

Whilst the adoption of an innovation is still very much considered to be a human choice, there are key infrastructures that can be effective mechanisms/levers to influence that choice. Amongst them, the most widely recognised fall in the below categories:

- **Evidence and knowledge base** - speaking to rational choice theory (e.g. evidence-based decision making: 'What Works')
- **Market levers** - speaking to the relationships between human behaviour, incentives, regulation and competition (e.g. Charters/Academisation policy)
- **Funding streams** - speaking to financial incentives (e.g. pump-prime funding, seed-funding, Social Impact Bonds)
- **Networks, of people and organisations** - speaking to collaboration and our social nature (e.g. the conference circuit, marketplaces, the 'personality'/champion, co-construction)
- **Organisations** - speaking to displacement and vehicles of change (e.g. Social Franchising, Networks, Platform-centric networks).

Conventions for scale

Certain ways of thinking have come to dominate the landscape as a sort of 'conventional wisdom' around scale and diffusion, not all of them wholly useful or even accurate. Innovation Unit's David Albury has developed five myths and realities, from both the vast literature and his decades of leading public sector innovation projects, that ring true.

MYTH 1: scaling and adoption are just informational issues	Reality: diffusion is NOT (just) an informational problem. Radical innovation requires organisational & behavioural change through granular comparative performance information is a powerful driver.
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While information is important and can inspire individuals, the diffusion of innovations that involve changes in professional roles or power relationships – most radical innovations – requires organisational supports and interactions. As well as being desirable (achieving better outcomes), for innovations to be scalable, they need to be feasible (appropriate workforce roles, skills and culture, relevant infrastructure, etc) and viable (giving better value for money, suitable contract and payment processes).

<p>MYTH 2: practices spread and scale through transfer from one organisation (or locality) to another</p>	<p>Reality: the dominant mechanism of diffusion is NOT transfer. Radical innovation diffuses through scale, spread & displacement hence sectoral and market regulation is key accelerator (or inhibitor).</p>
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Although this mechanism works for some incremental innovations, it is not the dominant mechanism for more systemic, radical or disruptive innovations. As the work of Clayton Christensen and colleagues at Harvard Business School has shown, such innovations frequently spread by the innovative organisation scaling up, increasing its share of the sector or market, and displacing the less innovative (lower performing) organisation.

<p>MYTH 3: innovation and scaling ('pilots' and 'roll out') are separate and sequential processes</p>	<p>Reality: innovation and diffusion are NOT separate and sequential processes. "innofusion": re-iteration, a social, not technical process critical to have diffusion strategy from the outset.</p>
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All too often, innovation programmes are conceptualised as 'pilots' and 'roll out': get the innovation 'right' or 'proven' and then roll it out to other departments, organisations or districts. As numerous research papers and case studies show, innovations scale or spread most rapidly and effectively when the diffusion strategy is devised and implemented from the outset, with potential adopters and end-users actively engaged in the design and prototyping. Innovations often require adaptation to local context whilst maintaining fidelity to the core principles of the innovation – so their generalisability or transferability depend on having a diverse range of adopters and users involved in the innovation process.

<p>MYTH 4: increasing the pipeline of innovations increases the likelihood of scaling and adoption</p>	<p>Reality: increasing the pipeline of innovation will NOT increase diffusion. Over-focus on supply side: insufficient attention to demand side rewards and incentives for organisations, teams and individuals.</p>
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In the public sector and public services, attention has been focused on increasing the stock and flow of innovations; most policies, programmes and prizes are supply-side. Successful diffusion and scaling requires equal attention to the demand side; how can latent demand be mobilised as expressed demand, what rewards, incentives and recognition stimulate adoption or scaling?

MYTH 5:
**Professionals (teachers) are the key
agents of scaling and adoption**

Reality: professionals are NOT the key agents of diffusion. Mobilise demand side: user networks and organisations build alliances between internal (professional) & external (user) networks.

Strong professional networks can be powerful accelerators of scaling and diffusion. But even where these networks are strong and there is robust evidence about the effectiveness of innovations, the rate of diffusion is significantly affected by the existence, power, connectedness and mobilisation of user networks.

Cultures for scale

Importantly, the literature, and conventional wisdom, has identified some key cultures that are critical for scale, spread and diffusion. Perhaps most crucial to Rogers' widely rehearsed thesis²³ was the identification of some cultural norms that embolden individuals as change agents willing to adopt innovations which play fundamental roles in how empowered decision makers feel and act - for example *a tolerance for risk*.

There are others which have emerged as particularly pertinent. The fabled *IKEA effect* - a cognitive bias in which consumers place a disproportionately high value on products they partially created - is another cultural norm that can be used to good effect when it comes to scale.

Yet on the flip side, it can also be a cultural norm that acts as a barrier to scale, much like the *not-invented-here effect* - a stance adopted by social, corporate, or institutional cultures that avoid using or buying already existing products, research, standards, or knowledge because of their external origin.

Beyond the initial decision to adopt, there are cultural norms to bear in mind that can influence the extent to which innovations are sustained in their new adoption sites. *The Hawthorne effect* - when individuals modify an aspect of their behaviour in response to their awareness of being observed - can lead to a passive and wholly non-committal adoption of innovations, leading to attrition, fatigue and most importantly diminished impact. We can imagine, for instance, how The Hawthorne effect might be critical when adopting a short-term, financial incentive scaling strategy.

RECONCEPTUALISING SCALE, AND WHAT THIS MEANS IN PRACTICE

The above typology, again, reiterates the complexity of scale and the need to reconsider how we think, talk and act upon our interpretation of scale and how to achieve it. Cynthia Coburn's work on reconceptualising scale²⁴, from what she (also) sees as an oversimplified conception of 'scaling up', to one of four interrelated dimensions:

- **Depth** - it's about the nature of change, not just the documented activity.
- **Sustainability** - it's about sustained change, not consequential change.
- **Spread** - it's about displacing existing norms within new sites, not just a greater number of adopters.
- **Shift in Ownership** - it's about change becoming internal, rather than an external process.

[23] Rogers, E. M. (2003) Diffusion of innovations. New York: Free Press.

[24] Coburn, C (2003) Rethinking Scale: Moving Beyond Numbers to Deep and Lasting Change. Educational Researcher Vol. 32 No.6.

Philippa Cordingley and Miranda Bell provide a helpful fifth dimension - *Purpose*²⁵. They argue that the starting point of all efforts to take an innovation to scale is the purpose or aim of the intervention. If the purpose is to create a foundational level of practice e.g. for the purpose of safeguarding, then a level of compliance is likely to make up the scaling strategy. But if the purpose is more transformational, rather than improvement oriented, the strategy may well be significantly different.

"Regulation can ensure that a child goes to school, and monitor long-term trajectories, for example, but it can't breathe life into the experiences the child will have on the way."²⁶

— Philippa Cordingley and Miranda Bell,
Centre for the Use of Research and Evidence in Education (CUREE)

Of course, it's all well and good pontificating about scale in the abstract, but what does this mean in practice? Well, once we begin to embrace scaling as a pluralistic and complex concept, some key tensions begin to emerge in practice:

1. **FIDELITY VS ADAPTABILITY:** to what extent should we identify and distinguish between the aspects of an innovation that are critical to achieving better outcomes - the non-negotiables - and those which can be flexed to accommodate a range of contexts across adopter sites?
2. **ADAPTIVE CONTEXT VS ADAPTIVE INNOVATION:** in navigating the 'system-innovation fit' dilemma, which should be adapted; the context in which the innovation is being adopted, or the innovation itself?
3. **REPLICATION VS OWNERSHIP:** is there an intrinsic value in those who are adopting an innovation to be agents of change themselves, rather than simply passive recipients of change?
4. **CODIFICATION VS 'JOURNEY-FICATION':** what should be prioritised, the specifications of the innovation, or the journey adopters take to utilise an innovation for impact in their context?
5. **BREADTH VS DEPTH:** should the focus be to maximise the scale of activity (reach), or should we concentrate on the depth and nature of change, as a way to achieve and sustain impact at scale?
6. **UNIDIMENSIONAL VS MULTIDIMENSIONAL:** should scale be defined by size or an appreciation of the more complex endeavour of sustaining an innovation in a dynamic system of competing values, implementational challenges and complexity, that makes scale fundamentally multidimensional?
7. **INNOVATORS VS ADOPTERS:** who are the 'Gatekeepers' of the innovation, who should make decisions about which elements are codified, which are adapted, what's important and how best to manage the interplay between the context and the innovation?

This new conceptualisation of scale, and the associated tensions that come with it, raise important questions for those who are looking to scale and spread innovations in education.

[25] Cordingley, P and Bell, M. (2007) Transferring learning and taking innovation to scale. Innovation Unit.

[26] Cordingley, P and Bell, M. (2007) Transferring learning and taking innovation to scale. Innovation Unit.

HUMAN-SCALE AT SCALE

So what does all this mean in the context of *Human-scale at Scale*? It would seem that scaling innovative models of student-centred learning poses an additional question - how can you scale something that is by design flexible and pluralistic?

The heart and soul of student-centred learning is deeply human. Building meaningful relationships is crucial, as is cultivating a particular culture of trust and agency. As a result, some of the tensions above become particularly pertinent. So, bearing this in mind, what do we need to pay attention to when trying to scale something as abstract, fluid, relational and cultural as student-centred learning models?

The purpose of *Human-scale at Scale* is to explore that very question, and identify some key learning from those who are leading the charge in scaling some of these new approaches.

Where we're at: heavy on the structural

Contributions to this knowledge base have come from a range of sources - education non-profits, consultants, charitable/philanthropic initiatives. Yet there has been a narrow focus on certain dimensions of the scaling journey. Not to say that those aspects aren't fundamental (they are), but there's much more to the picture. The below examples give a taste of where we've got to:



a mission-driven organisation, passionate about accelerating and amplifying innovations in teaching and learning - shares resources and provides thought leadership on a range of educational topics including blended, competency-based and personalised learning.

In addition to their resources on personalised learning practice, [Getting Smart](#) also have a rich library of thought leadership when it comes to how to scale student-centred learning. Tom Vander Ark in particular has offered some highly valuable insights on the role of technology, the designs of scaling programmes and procedures, the structures for scale as well as how to utilise the broader innovation ecosystem in terms of partners for scaling/adoption.

Much of this is predicated on an understanding of what 'macro-level' or system conditions are conducive to scaling personalised learning. As mentioned in their report in partnership with Fuel Education, "scaling requires certain conditions for success, including visionary leadership, teacher investment, professional development, technological investment, and powerful partnerships²⁷".



a national organization committed to providing every learner with meaningful personalized learning experiences that ensure success in college, career and civic life - develops the capabilities of educators to implement and sustain competency-based and early college schools, partners with federal, state and district leaders to remove policy barriers that inhibit the growth of personalized learning and provides national thought leadership around the future of learning.

[27] [Fuel Education in partnership with Getting Smart \(2015\) How to successfully scale personalized learning: six key lessons from effective programs.](#)

In a similar vein to Getting Smart, much of the expertise and research offered by [KnowledgeWorks](#) centres on how to create the organisational structures as well as the system conditions and cultures. As outlined in their immensely valuable report [A State Policy Framework for Scaling Personalized Learning](#), the answer to how we build an education system, a learning system, with personalised learning at the core is “by giving districts the flexibility they need to implement the conditions necessary for scaling personalized learning²⁸” - again focusing on the macro-level picture.



a global management consulting firm that serves leading businesses, governments, non governmental organizations, and not-for-profits - provides thought leadership to a number of industries, with Education being one of them.

In offering their thoughts on how to scale personalised learning across the US education system, [McKinsey](#) also focus on the macro-level, arguing that “a system-wide approach offers the best chance of reaching the most students²⁹”. They recognise the value in ensuring that pilots are successful, and putting in place the conditions for an eventual scaling up. McKinsey define a ‘viable approach’ as one that

- defines a vision for the innovative design of instruction and schools;
- establishes a process for pilots, rapid iteration, and scaling;
- creating an environment where innovation can thrive, including redesigned adult learning for educators and a strategic reallocation of resources.

Once again, structural and procedural aspects of a scaling journey take centre stage, offering a tight, technical interpretation of what is required to scale personalised learning.



**NEXT GENERATION
LEARNING CHALLENGES**

an initiative working to reinvent education: exploring new models, technologies, and pathways to student success through grant programs, and a network of over 150 grant recipients and philanthropic partners.

Since its creation, [NGLC](#) have built a wealth of knowledge, working with districts and education systems across the US to engage with today’s students through “next gen” teaching and learning designs that promise significantly higher achievement for many more students than current-generation approaches have been able to generate.

What they consider to be required to bring about Next Generation Learning at scale boils down to six dimensions of goal-setting and measurement, methodology, and the active support of the systems that surround the learning. NGLC have been explicit in their belief that there’s no single best way to incubate next-gen learning, highlighting that a key to unlocking how it may work best in a locality becomes an issue of fit. They elevate the importance of understanding the local context—the assets, partners and challenges in their region—and offer the building blocks of some high level strategies through their various toolkits that help build an ecosystem where next-gen learning can thrive.

But yet again, the focus is on creating the conditions for next-gen learning models to thrive at a system level, by creating the right conditions, at a system level. Their focus is on addressing thorny issues in public policy, educator practice, staffing structures, accountability, technology infrastructure, and funding.

[28] Williams, M., Moyer, J., and Jenkins, S. (2014) District Conditions for Scale: A Practical Guide to Scaling Personalized Learning. KnowledgeWorks.

[29] <https://www.mckinsey.com/industries/social-sector/our-insights/how-to-scale-personalized-learning>

What's missing: light on the cultural

All of the above are legitimate and value contributions to the complex understanding of scale. But what's critical is the extent to which they overwhelmingly focus on frameworks, systems, structures and procedures. There is a gap in our understanding about how to navigate this scaling journey in a *cultural*, rather than solely a *technical* sense. What *Human-scale at Scale* looks to bring to this rich literature is the elevation of culture, not in a system/organisational sense, but in a human sense.

What are the strategies that help accelerate the adoption and embedding of new mindsets, norms, behaviours, and protocols in adopter sites?

Without engaging with this cultural lens, we risk wasting valuable and limited resources in scaling strategies that fail to be welded into the DNA of teaching and learning experiences. There is a risk that the adoption of new practice and ways of working don't stick, and are effectively superficial or short-lived. This is about putting sustainability first.

SCALING FOR IMPACT: A MORAL IMPERATIVE

Amongst all this complexity, contestation and mess is an important truth that we mustn't forget. Innovation at the fringes is not sufficient. We have a moral imperative to bring the impact of new practice and school designs to all corners of our systems. We can't continue on a path of 'boutique schooling'. We all share a responsibility for each and every child in our communities to benefit from these innovations. That's something that we all too easily forget. The energy and wisdom put into the pursuit of scale must be laser-focused on ensuring all young people, not just a select few, benefit from these innovative models of learning, and are all prepared for the future.

This moral imperative is the difference between a fragmented and a pluralistic system. Unless we are all committed to different and better learning for ALL students, innovation is destined to be nothing more than another source of inequality, rather than impact at scale.

We must forever think of innovation, equity and scale as a sort of holy trinity. All three are paramount and should be considered together, from the very beginning of any change journey.

When it comes to *Human-scale at Scale*, the ask is to celebrate individuality and personalised, lifelong learning journeys, while simultaneously ensuring that all young people have the opportunity for just that. Achieving excellence, equitably, rapidly and at scale is the golden egg. So what else do we need to know in pursuit of that golden egg?

3. STORIES OF HUMAN-SCALE AT SCALE

WHY STORIES?

The power of stories is that by exploring, in depth, the journey that leading exemplars have been on, one is able to delve into the nuance and complexity in what it takes for change to happen. They have the power to inspire, to educate and to unearth new knowledge that builds on what we already know.

These stories of *Human-scale at Scale* share what it has taken to successfully scale and spread student-centred learning approaches. Importantly, these stories seek to go beyond the Public Relations success stories that gloss over critical detail, and fail to illuminate the rich learning that can be taken from them. In pursuing a level of honesty and granularity, these stories uncover knowledge that goes beyond structures and mechanisms, and allows us to understand the culture change at the heart of them.

These six stories of *Human-scale at Scale* purposefully takes a wide berth, covering school chains, networks, and jurisdictions. They represent some of the trailblazers across the US who have led the way in scaling and spreading student-centred learning models, all of which are on different trajectories and at different levels of maturity.

Each story seeks to explore not just the nature of their individual models, but also that of their journey. They share a contextual backdrop to each journey, which does the necessary scene setting to appreciate where these stories began and what is the driving force behind them.

What's critical is to engage in these stories with open minds, a critical eye, and with others. They can be taken separately, and together, with the intention being to broaden perspectives of what factors are at play when it comes to the challenge of scaling and spreading innovative, student-centred learning approaches. In surfacing insights and identifying key learnings, these stories of *Human-scale at Scale* can help build on what we already know, and also contribute to filling some of the gaps that still existing in our understanding.



HIGH TECH HIGH

‘head, heart and hands’



“

Sometimes you have to treat people differently to treat them equally

— Larry Rosenstock, Founding Principal and CEO of High Tech High

”

What are they all about: mission, vision and values

In 2015, Most Likely To Succeed premiered at the Sundance International Film Festival. This poignant edu-documentary casts a light on the shortcomings of established education methods by focusing on one school model that’s defying convention, San Diego’s High Tech High. It follows two ninth-grade classes, with classroom instruction unlike what’s seen in traditional, teacher-led classrooms. In doing so, the film poses some critical questions about how we might best prepare young people for the very different futures they will inherit, and at the same time captures what it’s like to be at the heart of a personalised, project-based, ‘head-heart-hands’ education at High Tech High.

In 1996, forty members of San Diego’s civic elite assembled to discuss how to engage and prepare more young people for the high-tech industry. Called upon by the San Diego Economic Development Corporation and Business Roundtable, these members brought together a coalition of educators who had been part of the long-running New American High schools research project, to launch High Tech High as a single charter high school. The original High Tech High was designed around four design principles which distinguished it from existing high schools: personalisation; adult world connection; a common intellectual mission; and teachers as designers. What this culminates in is a school experience that is personalised and integrates the rigour of academic content with the application of vocational pedagogy – hence their name High Tech High (HTH).

HTH has evolved into an integrated network of thirteen charter schools serving approximately 5,300 students in grades K-12 across three campuses. The HTH organisation also has a comprehensive adult learning environment including a Teacher Credentialing Program and the HTH Graduate School of Education (HTH GSE), offering professional development opportunities for educators inside and outside the organisation. HTH’s four design principles have evolved, having been refined and renewed by the staff that make up the thirteen schools. They are now equity; personalisation; authentic work; and collaborative design.

What does learning look like: pedagogy, practice and culture

Walk into any of the thirteen HTH schools and the landscape will look significantly different to what you'd expect from a school. The physical learning spaces are designed to resemble an adult learning environment, mimicking features of universities and workplaces with common areas, high tech labs and open seminar rooms. Walk into any classroom and you'll most likely see students engaging in socratic seminars or dynamic (and sometimes chaotic) group work, rather than seeing the traditional 'sage on the stage'. Every corner, every wall, every hallway is a canvas for displaying the extraordinarily high quality student work that seems to be bursting out at you as you walk around.

The HTH learning experience combines a challenging academic curriculum with personalised, project-based learning. Rather than simply consuming information in a silo, away from the world, students integrate 'head, heart and hand' through authentic interdisciplinary projects that are of significance in the world. Within these projects, students produce high quality products - be them published books, works of arts, machines, or computer games. The aim of these projects is for all students to master core knowledge through deeper learning, but also to develop good learning behaviours as self-directed and collaborative learners that will allow them to continue to develop their knowledge and skills throughout their lives. They also offer students the opportunity to take up authentic roles that exist in the real world - engineers, writers, producers, scientists - and ask themselves "can I picture myself doing this out there in the real world?".

Students regularly work alongside industry experts and are expected to produce projects of professional quality that contribute to their local communities. In fact, the HTH learning approach is specifically designed to have pervasive connections to the local community. Each year students are involved in Public Exhibitions. Bringing students, teachers, families, experts and the local community together, these exhibitions display and explore the learning that has taken place in projects. While students also assemble digital portfolios, these performance based assessments offer them further opportunity to articulate and be assessed on both their mastery of content knowledge as well as the learning journey they have undertaken throughout the projects. The authentic audience creates a unique incentive for students to produce beautiful, well crafted products that have significance to them and the outside world, and of which they can be proud.

Teachers often design projects that have salience in local issues and their students' lives. Beyond the Crossfire was a social justice research project involving a group of 45 HTH Chula Vista students investigating why there is so much gun violence in the US, and what they as young people can do about it. Through crowdfunder funding, they raised the money needed - over \$30,000 - to buy equipment to make an empowering documentary that presents their ideas for action.

"We are teaching students to think deeply about content and then do something with their knowledge, not just race through a textbook."

— Ben Daley, Chief Academic Officer, High Tech High.

Perhaps most critically, the role of teacher at HTH is seen to be significantly different to traditional school settings. Teachers are explicitly designers of learning, not deliverers of it. Working in teaching teams (often pairs), they design engaging and authentic projects for groups of 50+ students, through which students engage with core academic content. In the elementary and middle years, daily work on projects is highly scaffolded by teachers, with a lot of monitoring of how students are progressing. As students reach the later high school years, they are expected to take responsibility for managing their own work and time in groups. Teachers require students to submit draft pieces of work as a project develops. They work together with students to adapt a common 'behaviours rubric' for each project, so that students have a good understanding of what is expected of them, and how they can demonstrate good learning behaviour. Using these rubrics, teachers monitor students' progress in developing core social and emotional capacities, with students reflecting on their own development in these areas at the end of each project through student-led conferences. These strategies illustrate how much time and energy teachers invest in consciously cultivating authentic and meaningful relationships, and enabling students to take the lead in their own learning.

Their journey so far: vehicles for growth, strategy for scaling

What's unique about HTH's experience of growth is how it resisted geographical spread. While it is one of the most high-profile and widely visited group of schools in the USA, HTH leaders have purposefully taken a place-based approach to scale, emphasising the virtue of building a close-knit collaborative network of schools in and around San Diego. The thirteen High Tech High schools exist across three campuses, acting as individual and collective communities of schools. The Point Loma campus, known more colloquially as 'The Village', is where it all began. Today, there are three high schools, two middle schools and two elementary schools in The Village, all within walking distance of each other, each designed with the small school movement at their heart and the experiences of the High Tech High schools that preceded each of them in their DNA. They function almost as a living and breathing ecosystem - a hub of activity and learning. It really is hard to see them as separate schools. And this is true not only in The Village, but also across the other two campuses. This is in part due to the fact that the folks at HTH take collaboration very seriously. Directors from across the network meet weekly - they're constantly in conversation, acting as critical friends and sharing practical support. This culture trickles down to how the rest of their collegiate collaborate across schools, with the village model acting as a huge enabler. Word gets around a village. Informal conversations on the street easily snowball into authentic and powerful peer-collaboration. They live and breath it together as an ecosystem. But it's not all organic. The use of protocols to navigate different types of conversations and collaborations is prevalent across the network. Protocols act as enablers of collaboration and as rituals that shape their interactions, rather than 'best practice'.

The proximity of these communities of schools has allowed for the cultivation and sustenance of the HTH culture and their profound approach to learning. It's also nurtured a strong sense of collective responsibility across the HTH network. The schools publish their results as a collective network not as individual schools, explicitly sharing in successes and taking responsibility for areas where improvement is needed. The results speak for themselves - 98% of HTH graduates have gone on to college, with approximately 75% attending four-year programs at prestigious universities. 87% of HTH graduates are either still in or have graduated from college (the national rate is about 59%) and over 30% of alumni enter math or science fields (vs. 17% national rate). About 35% of graduates are first-generation college students.

Yet HTH are able to balance this collaborative identity - undoubtedly a powerful resource - with a sense of school and teacher autonomy. They empower each school's leadership and teaching

collegiate to act on their professional agency. This balance has helped to achieve a homogeneity in culture and learning not through a top-down, accountability-driven approach to management, but by carefully and meaningfully investing in and trusting their people. Collaboration and autonomy are somewhat mutually reinforcing across the HTH network.

The glue that keeps it all together are the HTH design principles, which signal a radical departure from the conventional high school model, and represents the particular vision for what learning at HTH should look and feel like. This 'fidelity of learning' sets aspirational goals and creates a foundation for understanding and enacting the HTH approach.

The design principles are supplemented by some core pillars of practice that are consistent across the network, seeding and embedding the unique HTH culture and vision. For instance, it's paramount that educators and their students pursue ambitious, rigorous projects, culminating in public exhibitions. Other pillars of practice include things like advisory and peer critique, which place emphasis on commitments to great relationships and the creation of high quality, student-led final products. These are lines in the sand, sure, but they're guiding lines; more like foundations. Pretty much everything else is up for grabs, for each school and their collegiate. Members of staff speak very passionately about the fluidity and malleability of the HTH model. It cultivates an excitement in staff that results in proactive, dedicated and deliberative educators. Larry Rosenstock, CEO of High Tech High, often rehearses the phrase "simple structures beget complex behaviours", and that's what the design principles and pillars of practice provide.

Of course, like any other Charter Management Organisation, High Tech High leverages the economies of scale that come with centralised operations. Most significantly is how the HTH GSE acts as the catalyst for professional learning. The School offers Master of Education Degrees (M.Ed) in Teacher Leadership and School Leadership, as well as professional credentialing to educators in and outside of the network. Students of HTH GSE develop the necessarily skills to be not just educators, but High Tech High educators - receiving extensive input from the HTH founders and other experienced teachers. But HTH were sure not to over-centralise operations - each school is authentically owned by its leadership and its collegiate. One teacher described her school as "having different flavours depending on who's around". The Director, the collegiate, and even to an extent the students bring their own voice to the model, and make those design principles come alive in their own way. Each school has it's own personality. That means different meeting structures, schedules, ways of collaboration and strategies for solving problems and driving improvements. Importantly, each school's Director is autonomous to pursue the design principles through their own lense. For instance, the current Director of The Gary and Jerry-Ann Jacob's High Tech High (the original HTH) has a vision for this year that's all about 'culture, people and projects'. Specifically he wants the school to focus on how the staff work together to cultivate ideas, go from empathy to insights, test ideas, and utilise effective feedback loops. This strategy exemplifies how he as a leader is empowered to instil a brand of Design Thinking. That's not a High Tech High principle or strategy across the network, but is absolutely encouraged and supported by everyone.

The unwavering commitment to autonomy and collaboration throughout the HTH organisation crystallises in a crucial recognition that teachers are professionals—expert educators and expert designers of learning. This requires trust in their abilities and an ongoing a culture of cultivation. School are complex social systems, as are their collegiates. They're held together in a fragile way.

“You have to tend to them as if they’re a garden. Walk lightly, breathe oxygen into the place, encourage cross-pollination. It’s about creating the right conditions”

— Kaleb Rashad, Director, The Gary and Jerry-Ann Jacobs
High Tech High.

Takeaways on Human-scale at Scale - High Tech High style

HTH is an astonishingly sophisticated, cultural organisation. Scaling its provision while staying local has enabled them to build a strong culture across a significant number of schools. This has undoubtedly driven their impact at scale, and has sustained their powerful approach over time.

What’s most noticeable about the HTH scaling experience is how deliberative they are about cultivating a specific culture. Those that are cited as most powerful have been the softer, small-scale strategies, such as how curated student work displayed in every available space instils in students a sense of craftsmanship excellence, and authenticity; and how physical space is designed to allow students to embrace creativity and collaboration; or how team teaching reinforces the normality of collaboration and interdisciplinary learning.

Teachers have played a particularly crucial role in HTH’s success at scale. School leaders nurture and cultivate the professional identity of their staff, rather than constraining it, with HTH’s investment in establishing a Graduate School of Education representing a further investment in the notion of teacher professionalism. HTH recruit teachers that are curious, willing to be vulnerable and are collaborative to the core. It takes a particular professional mindset to belong to this family - they have to be open to constant and continuous learning. What’s clear is that HTH sought to establish teachers as the custodians of the HTH vision and culture, and threw everything they could into achieving that.

Since establishing their exceptional, locally embedded footprint of practice, HTH have begun to think deliberately about what role they can and should play in supporting the broader system. Their current strategy revolves around inspiration, as opposed to replication. They’ve begun to meaningfully leverage the HTH GSE as a platform for supporting districts, counties and schools to spread ways of working that exist within the HTH approach - for instance Public Exhibitions, or even how to design real-world learning experiences. As the sophisticated, innovative organisation that they are, HTH will continue to develop and evolve the ways in which they can play a more significant system leadership role. Watch this space.

SUMMIT PUBLIC SCHOOLS

'the next generation school'



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"The industrial model is really driven by adults. Kids come in, they're told where to go, where to sit, what they're going to learn, when they're going to learn it. You're on the assembly line. We believe the next generation models are about the students being empowered to drive their own learning."

— Dianne Tavenner, Founder and CEO of Summit Public Schools.

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What are they all about: mission, vision and values

Summit Public Schools is a charter management organisation responsible for 11 schools across California and Washington State, and is widely considered one of the leading education institutions in the US. It's been dubbed by many as a 'School of the Future' and has the backing of some of the most influential philanthropists who are set to shape the US education system over the coming decades. Originating in Silicon Valley as a response to surprisingly poor local outcomes (less than half of students graduate eligible to attend a four year college, and 1 in 5 drop out altogether), they now work with one of the region's key figureheads, Mark Zuckerberg, to reimagine the public middle and high school experience for young people across the country.

Founded by a group of parents in 2000, Summit Public Schools began with a belief that school could prepare every student for college and career success, not just a select few. The founders were particularly interested in addressing what were seen as fundamental academic gaps, especially amongst children from low socio-economic backgrounds, that often dated back to elementary and middle school. Their initial response, embodied in their flagship charter school, Summit Prep (Redwood City, California), was a school explicitly designed to be small, implementing a rigorous, teacher-led, high-support approach to learning. While they were successful in addressing some of the academic gaps identified, Summit leaders looked deeper and saw that of the first cohort of students who graduated from Summit Prep, only 55 percent of them were on track to graduate from college in six years. The rigorous curriculum, led by teachers, left many students without the dispositions, skills and behaviours to self-structure and self-motivate. Almost half of those initial Summit students who went on to college failed to make it all the way through. Summit reoriented itself as an organisation, pursuing not just college readiness, but college success. They entrusted the evolution of the Summit approach to the staff themselves, who decided that the answer was to redesign school with the help of technology to enable each student to learn at their own pace and develop the personal habits to succeed as self-directed learners. They transformed their model to one focused on project-based, personalised learning. It required a complete rethink of the Summit learning experience and therefore the very design of the school and how learning is organised. The roles of students and teachers were reimaged, learning spaces were rethought, and time-based as well as age-based practices that hindered personalised learning were replaced.

What does learning look like: pedagogy, practice and culture

Summit Public Schools seek to cultivate self-directed learners who are able to succeed in college and in life, no matter what their background. While some of their students will select career paths or community colleges, Summit considers the process of preparing to attend a four-year college a useful way for students to avoid the academic and skills deficit that results from placement in a non-college prep, high school diploma program. For them, that *absolutely* means instilling basic, yet critical, content knowledge in young people. As part of their learning approach, Summit ensure students spend 16 hours a week (half at school, half at home or after school) in self-paced 'Personalised Learning Time', in which students leverage the Summit Personalised Learning Plan (PLP). This digital student dashboard designed in-house by Summit allows students to work at their own pace and in ways they learn best towards their individual learning goals and mastery of core content knowledge. They utilise a combination of playlists curated by Summit teachers, peer-to-peer coaching and 1:1 tutoring to support them to direct their own learning.



But for Summit, there is the belief, grown out of their own experiences, that developing high-level cognitive skills is as critical to success in today's world as content knowledge. Through 'Project Time' - authentic, project-based learning experiences facilitated by Summit teachers - students develop deeper learning competencies such as problem-solving, effective communicating, creative and critical thinking, inquiry, and metacognition. This is seen as where high quality teaching can have its greatest impact, and students can more significantly apply the content knowledge they've learnt.

They are also explicit about developing non-cognitive skills; what Summit calls 'Habits of Success'. These are the skills that self-directed learners exhibit every day to drive their individual success: self-awareness and self-management, social awareness and interpersonal skills, decision-making, and responsible behaviour. While these skills are harder to cultivate, Summit create the conditions for teachers to support students to develop these qualities at all times, reflecting on them specifically during 'Mentor Time' (every student is assigned a mentor from day one, and they meet weekly to talk about school and home life).

Summit's commitment to go beyond college readiness is furthered by their commitment to immersing students in real-world experiences. Students spend eight weeks a year, in two-week chunks, doing 'Expeditions' to help them discover and explore passions and careers and apply their learning in authentic ways. Whether its engaging in a course, internship or bespoke project, students are supported to refine their cognitive and non-cognitive skills that will prepare them for success at college, and in life beyond college.

In this mash-up between personalised learning strategies and inquiry/project-based learning, teachers play a critical, albeit different role. In seeking to get the most from high quality teachers, Summit recognise that teachers have the most impact when leading interdisciplinary projects and other rich performance tasks that help students weave together content knowledge and high-level cognitive skills. Teams of educators provide one-to-one tutoring and coaching, small group learning experiences, workshops and labs, as well as larger group experiences such as Socratic seminars, presentations or case studies. Perhaps most significant is that Summit teachers are seen as key players in realising the promise of public charter schools as laboratories of innovation, while of course keeping students' needs at the heart of every decision.

Their journey so far: vehicles for growth, strategy for scaling

Summit's journey to notoriety can be attributed to two distinct strategies. The first sought to scale its existing provision, opening new schools and building a footprint of practice in California, then (to a lesser extent) in Washington State. This growth was purposefully led by community demand, ensuring that each new Summit school was meeting a specific need/academic gap in the local area. Sustainability was also at the centre of this strategy, with the Summit model designed to be self-sustaining, operating on the traditional state and federal funding allocation after an initial startup grant from The Charter Management Organisation (with a small amount of parental fundraising once they reach full capacity).

True to their history, Summit were determined to put rigour and quality assurance at the heart of their growth. They developed one of the most sophisticated and collaborative professional development system around, mobilising the whole Summit Public School Charter network. Summit teachers have 40 dedicated days of focused and systematic professional development every year, including a six-week paid summer learning institute called Summer of Summit (for returning and new staff). Much like their student's PLP, teachers are required to demonstrate mastery across a collection of teaching competencies, and are supported by a coach, often the principal, who supports them to work towards their personal goals, as professionals. There are also a number of regular cross-network touch-points that teachers and school leaders can utilise, often conducted via Google Hangout or Skype. Subject teachers form working groups, while school leaders have structured, often weekly opportunities to share practice and learning with other principals in the network to build out new practice and provide critical friendship, as well as participating in regular study visits to each others schools.

Perhaps most critical to the Charter's success has been Summit's determination to build a culture of innovation within each and every one of their schools. Teachers and school leaders are seen as shapers and guardians of the Summit approach. Schools are therefore designed to provide extraordinarily high amounts of time for collaboration to refine and develop the school offer further. They have an hour a week with course level teams to allow them to iterate the curriculum, and are charged with gathering and presenting evidence of their performance as demonstrated in student work and achievement. Teachers and school leaders are at the heart of implementing, tweaking and sustaining the best version of Summit that achieves outcomes for their students. Of particular importance is how different school leaders lean on different elements of the Summit model to help it fit locally, and achieve what they're trying to achieve for their community. This trust in, and empowerment of, teachers and school leaders illustrates an active choice in elevating educators to co-designers and co-owners of the approach, giving them a high degree of accountability and responsibility, attracting the right people and incentivising them to perform.

The Summit Public Schools Charter can boast schools which are consistently ranked among the best schools in California. By 2015, 93 percent of Summit's entering freshmen graduated, about 10 percentage points higher than comparable school districts. Last spring 99 percent of Summit graduates were admitted to four-year colleges, and in San Jose, where seniors had experienced the personalised model for all four years, 100 percent were admitted to four-year colleges. These outstanding results drew nationwide attention, as well as the attention of none other than Mark Zuckerberg.

Rather than settling for impact from scaling their current provision, Summit sought a secondary strategy, in which they teamed up with Facebook and The Stanford Center for Assessment, Learning, and Equity (SCALE) to spread the Summit model by leveraging the technology it used. In partnership with Facebook engineers (to refine the learning platform) and Stanford academics (to

develop 'gold stamped' project-based curricula and a Cognitive Skills Rubric), Summit made its juiced-up Personalised Learning Platform (PLP) available to schools across the country for free. Initially as a 19 school pilot programme named '[Basecamp](#)', and then with a much larger cohort through their '[Learning Program](#)', Summit sought to support educators to implement its methods within already established public schools.

Schools (and districts) that enrol in the Summit Learning Program are not simply learning to adopt their digital learning platform. They are supported to transform their pedagogy, ways of working and overall school design - the technology is merely an enabler. Summit adhere to a holistic approach to implementation of their learning model, and as such have a number of program requirements. Everything from grading policies, to weekly schedules, to assessments, to how teachers and students spend their time must change to ensure teachers are empowered to meet the needs of every student. In the first instance, schools are encouraged to create an innovation-friendly environment for testing out the Summit learning approach in a single grade, mobilising a motivated grade-level team, with support from a senior leader, acting as a champion of this work.

Teachers have access to a robust teacher guide with resources and trainings about how to implement personalised learning in the classroom. They also join a national community of practice around personalised learning in which Summit Coaches support schools through the change process, with the intention of breaking the "silo effect" by convening schools to solve problems together, instead of leaving them to fend for themselves. This is testament to how Summit's approach to adoption has evolved over time, placing more emphasis on change management. Summit emphasise that this is a significant change process, both structurally and culturally. Summit Coaches are tasked with helping schools travel this journey, providing ongoing support and mentorship, reiterating that this is a fundamental change to the way teachers and students approach learning and therefore requires enthusiasm and a growth mindset.

"We've seen positive growth, but we also know that cultural shifts are hard. Being able to really get at the heart of what it takes to change a school... we know that you need to go slow to go fast."

— Lizzie Choi, Chief Program Officer,
Summit Public Schools.

The Summit Learning Platform has now been adopted in over 100 schools across the US, reaching over 20,000 students. Over a thousand teachers are trained in the use of the Platform and its associated teaching and learning practice. [Stories of optimism and success](#) are emerging from the first cohorts of schools, with Summit's ambitions continuing to grow. Yet some observe that their operating schools have a much tighter culture and adherence to the model compared to those enrolled in the Learning Program.

Takeaways on Human-scale at Scale - Summit style

Summit Public Schools have sought to both scale and spread their approach. Having built a footprint of practice and impact in California, Summit acknowledged that if they were to continue to successfully grow their impact and influence across the broader national education system as a whole, they would need to be smarter about how they grew their impact.

The evolution of The Summit model, from one focused on rigorous curriculum and teacher-led learning, to one focused on rigorous, personalised curriculum and self-directed learning, gave Summit the knowledge of what it takes to transform learning and has served them well over its formative years. They've captured this knowledge in a White Paper 15 years in the making - [The Science of Summit: School Models that Drive Student Success](#). Perhaps most critically is how they have recognised that if you're serious about transforming learning, you need to be serious about redesigning school. As the Summit Learning Program requirements exemplify, there are critical ways to organise school that enable innovative and radically different learning approaches like personalised learning. While the Summit Learning Program is fairly rigid in its approach to implementation, its emphasis on a change journey has been critical to its early success. Teachers and school leaders are put at the heart of this spread strategy, and are supported to be co-designers, developers and guardians of how this approach can work for them and their students.

The Summit Personalised Learning Platform (PLP) has been an effective hook and lever for growth and achieving impact. Summit leadership has been able to take informed risks that are only possible with the collection of real-time data through their technology. Yet the Summit story emphasises that technology only plays an enabling role in the scale and spread of new learning models, much like how it only plays an enabling role in learning. Technology is a single lever in a much more complex, human change journey.

In the scheme of their ambitions, it's still early days for Summit. They have continued to add new and innovative dimensions to their support, with [the launch of the nation's first teacher residency program for personalised learning](#). There's little doubt that they have the momentum and support to continue to enrol more and more public schools into their Learning Program. The question is to what extent will they replicate the impact of their Charter network as more and more schools embark on this change journey, and crucially will these schools stick with it?

BIG PICTURE LEARNING: 'one student at a time'

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Big Picture Learning has redefined — indeed, revolutionized schooling. By bringing students and their interests to the forefront, it is a model of student-centered learning, which is key to intrinsically motivating students

— Clayton Christensen, Harvard Business School Professor.



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What are they all about: mission, vision and values

Elliot Washor and Dennis Littky - two highly experienced New England mavericks - were given the opportunity and backing by Rhode Island Commissioner of Education Peter McWalters to design and open a new innovative high school - a “school for the 21st century” that would involve both “hands and minds”. How did they go about doing that? They sat down and closed their eyes and said “if we didn’t know there was such a thing as school, what would we do?”. The answer was to find a student’s interests, find their passions, put them with people who share their passions, get them to pursue real projects that have a consequence in the world, and have them stand up to present their work and what they’ve learnt. Big Picture Learning was born. In the schools that Dennis and Elliot envisioned, students would be at the center their own education. They would spend considerable time in the community under the tutelage of mentors and would be assessed not on the basis of standardised tests, but on exhibitions and demonstrations of achievement, on motivation, and on the habits of mind, hand, and heart. These real world evaluations and assessments would reflect those that we all face in our everyday lives.

Big Picture Learning was established in 1995 with the sole mission of putting students directly at the centre of their own learning, with an intention to demonstrate that schooling and education can and should be radically changed. The Metropolitan Regional Career and Technical Center (The MET) was the very first Big Picture Learning school. The first MET class graduated in 2000 with a 96% graduation rate. Ninety-eight percent of its graduates were admitted to postsecondary institutions, receiving over \$500,000 in scholarships to help fund their college dreams. These ground-breaking successes brought national attention and financial support from the likes of the Bill and Melinda Gates Foundation who provided Big Picture Learning (BPL) with a large grant to replicate its design nationwide. In 2003, after continued success, the foundation pledged a second grant to launch even more schools.

Today, there’s over 65 Big Picture network schools in the United States and many more around the world; with schools in Australia, the Netherlands, Italy and Canada utilising the BPL design, working together with their communities to reimagine and reshape education.

What does learning look like: pedagogy, practice and culture

Big Picture schools (like the students they serve) often look dramatically different to one another. Each is its own unique environment where students can flourish as individuals within a community of learners. Yet, there are many elements within the learning design that are distinct and which underpin the BPL philosophy, uniting schools across its network while distinguishing its approach from most others.

In 2005, Bill Gates famously announced the three R's that formed what he and his foundation thought to be the basic building blocks of better high schools: rigour, relevance and relationships. What many don't know is that these 3 R's originated from Elliot and Dennis' initial BPL design, back in the 90s. '*Rigour*': making sure all students are given a challenging curriculum that prepares them for college or work; along with '*Relevance*': making sure kids have courses and projects that clearly relate to their lives and their goals; both underpinned by '*Relationships*': making sure each child has a number of adults who know them, look out for them, and push them to achieve, are the core principles of BPL. They are at the heart of its philosophy, and scaffold everything about this unique learning design.

There are a number of scaffolds that shape the 'one student at a time' experience. BPL's 10 Distinguishers, act as design pillars and are interrelated and inform one another – none work in isolation. These Distinguishers vary from a commitment to the 'one student at a time' culture, to more practical strategies such as substantial investment in advisory time, and in Learning through Interest and Internships (LTIs), which see students taking part in work placement for two days a week. They make up the essence of what BPL should look and feel like, and act as a framework. It is their seamless integration with reflection-based action that drives the learning design.

In being true to their student-centredness, the BPL design holds itself to account through the students themselves. They identify 10 expectations that students can use to determine whether their school is truly offering them a BPL experience.

With no classes, grades, or tests, BPL's competency-based environments are designed to see each learner as an individual. No two learning pathways are alike—learners, with the support of their mentors, parents, and peers, leverage BPL's design pillars and distinguishers to create individual learning plans. Big Picture is a place where each student learns how to learn and explores content not through subject-organised curriculum, but through interest and passion-led work.

The Big Picture learning goals act as a framework for the individual learning plans, looking at real-world concepts and abilities necessary to being a successful, well-rounded person out there in the real world. They are:

- Empirical Reasoning - how do I prove it?
- Social Reasoning - what are other people's perspectives on this?
- Quantitative reasoning - how do I measure, compare or represent it?
- Personal Qualities - what do I bring to the process?
- Communication - how do I take in and express ideas?

These learning goals complement BPL's commitment to the deeper learning competencies, a movement which they are active within.

Their journey so far: vehicles for growth, strategy for scaling

For over 20 years, BPL has worked to put students at the centre of their own learning. Their growth so far has been steady. The Big Picture Network is one of the most mature across the US, existing for over 20 years, and achieving impact at an impressive degree of scale. 95-100% of students are accepted into 2 or 4 year college, with 70-97% of heading to college each year (since 2006). Of those students who went straight to work after graduation, 74% secured employment through their BPL internship.

Leaders of BPL were unequivocal about the fact that they wanted the growth to be demand-led. They were clear that their pedagogical and school approach couldn't be pushed on people. The growth of the network had to be organic. They were also clear that it wasn't a tool for 'turning schools around'. Educators and school leaders must be in it for the right reasons, rather than as a last chance 'Hail Mary' solution. A critical part of mobilising this demand lies within a coherent and collective vision for a new kind of education. The founders and leadership at BPL are determined to build and invigorate a broader movement.

This grassroots approach is a critical lens through which to look at the Big Picture Network. BPL purposefully place the impetus on the local school community at each site, working to ensure the model is locally owned. One of the most significant decisions BPL leaders made during their early years of growth was to resist becoming a Charter Management Organization with formal authority over the day-to-day operations of the schools that choose to affiliate with the BPL approach. Instead of building a permanent and co-dependent relationship with schools, they choose to work with each school to become rapidly autonomous in its new, student-centred form. The Founders and Executive Directors of BPL actually describe their schools as a 'meshwork' - depicting the biological and organic nature of their relationship to one another. What this looks like in reality is the co-construction of an education institution that is highly responsive to local contexts while being true to the BPL vision. It's a negotiation between the innovators and the adopters, rather than a top-down, prescriptive approach. Regional Directors (all cutting across a number of US state boundaries) and BPL School Design Coaches work in partnership with local educators and community members to pursue both culture and practice development towards a local envisioning of the learning design. Much like the profound engagement in what students want to get from education, BPL takes the same approach for individual school change journeys - one student at a time, one school at a time.

The '*meshwork*' has continued to evolve. From regional leadership coaching, school design support and access to resources such as [professional learning guide podcasts](#), to more sophisticated processes such as peer-reviewed audits/diagnostics, there are ongoing efforts to refine the activity across the 'meshwork'. The barriers to entry have also evolved, with schools and now districts able to become *BPL Affiliates*. They recognised that in some circumstances, educators may not initially be able to fully implement the learning design in its entirety, but are firm believers in the Distinguishers and vision for truly student-centred education. BPL Affiliates are welcomed as part of a broader movement, and benefit from some access to support. This acceptance of different stages of development provides educators with more entry points into this new education philosophy, and reinforces the notion that levels of fidelity are dependent on different operating models and which cohorts the school is trying to provide for. That being said, schools are held to a standard and can be removed from the 'meshwork' if they fail to demonstrate a commitment to the philosophy.

What's absolutely central to the BPL strategy for growth and impact is their "craft-culture mentality" - they invest heavily in people and culture. What's immediately recognisable when you look at the BPL organisation is that the people at the heart of it - from founders, to Executive Directors, to Regional Directors - all carry the experiences of being a BPL practitioner. This is no accident. The culture of the pedagogical and school approach travels in the DNA of the organisation's people. This notion of spreading the culture of Big Picture Learning through people exists throughout the mechanics of the 'meshwork'. Individuals from existing schools in the BPL network often leave to launch their own BPL (or BPL inspired) schools. There are also lots of immersion opportunities for staff of new BPL schools to visit and spend time in an existing established BPL schools through secondments and residencies, with the intention of absorbing what it is to feel and live the BPL culture and experience. The MET school plays a critical role in providing this. As the original BPL school, it acts as a 'Mecca' for school leaders and practitioners. It is the exemplar in the meshwork that demonstrates what BPL looks like in it's most developed form.

Beyond the schools in the network, BPL is a proactive movement builder, ensuring that it's learning design and unique culture is further spread, cultivated and sustained through supplementary and collaborative initiatives. BPL are founding partners of the [Equity Fellowship](#) - a program to provide mid-career leaders with the perspectives and tools necessary for effective and expanded Deeper Learning leadership in the public school sector. They are also members of the [Deeper Learning Network](#) - a national network of more than 500 schools in forty-one states serving as a source of innovation and tools for delivering the knowledge, skills, and dispositions of deeper learning. The [Big Bang annual conference](#) is an international convening on student-centered learning, hosted by Big Picture Learning and is one of the few education conferences that invites students as participants.

While the BPL movement is leading real change in communities in the US and around the world, there comes with it an increased need for scalable solutions to some of the more challenging aspects of model - one of which is how to best manage internships. Attending to the hundreds of internship requests made by students can create significant logistical and relational challenge for schools, and their capacity to do this is often limited. BPL has sought to work on behalf of it's network to explore whether they can leverage technology to overcome this challenge. They have launched [ImBlaze](#) - an internship management platform for schools, districts, states and workforce development systems who are ready to embrace the world as classroom. Built entirely upon Salesforce's infrastructure, ImBlaze gives schools all the tools they need to curate a dataset of potential internship opportunities. Students can search for opportunities based upon their interests and goals, and local Internship Coordinators can act as gatekeepers. Once an internship is secured, students can use the mobile platform to record attendance and document their learning as it's occurring.

Takeaways on Human-scale at Scale - Big Picture style

Big Picture Learning is a story of spread. As an organisation, it has set itself up to pursue radical educational change, one student at a time, one school at a time. Through the network's activity, BPL leaders are committed to changing the way we think about education, influencing policy and transforming the education system from the ground up.

"We prefer to measure our efficacy by how effectively we are able to "spread" belief in the value of the design parameters which undergird our pedagogical approach."

— Andrew Frishman,
Executive Director at Big Picture Learning

It's experience of growth and impact is a testament to the power of taking people on a journey from one paradigm to another. Big Picture Learning continue to grapple with how to best support schools to effectively balance fidelity to the essence of this unique education philosophy with how to best fit local contexts, with their cultural quirks and structural constraints. Debate continues to rumble within the organisation as to whether some schools in the meshwork are being given too much leniency.

BPL continue to be strong advocates for a student-centred education within the broader system. They are keeping a watchful eye on advances in new ways to measure success in education, searching for new ways to supplement their [preliminary qualitative and quantitative data gathered in longitudinal studies](#), which suggested that the BPL approach would be rated quite highly if evaluations of success were broadened to that of public value creation. ImBlaze will allow BPL to track the values and successes of real-world learning across the entire network. They will capture how many students attend internships, how long those experiences last and what key 'social-emotional' competencies are gained from the experience. This will enable BPL to be a megaphone for their real-world brand of personalised learning, and advance their goal of reimagining and reshaping education.

What will be of particular interest over the coming years is how BPL as an organisation continue to come up with innovative ways to shift perspectives in education and grow their movement. After ImBlaze, what's next?

NEW TECH NETWORK

‘a partner for school change’

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We see a future, when parents in all communities can feel newfound confidence and excitement for the learning journeys their students face. A far cry from the disengaged, impersonal and outdated “stand and deliver” education that passes for school today. This aim—a nation proud of its public schools—is based on tangible success in redesigning 200 schools within districts.

— Lydia Dobins, President and CEO, New Tech Network.

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What are they all about: mission, vision and values

Like many education origin stories, The New Tech Network began with a group of concerned civic leaders who felt that their local schools were under-preparing their young people for the world they face after school. In the mid-1990's, a group of Napa entrepreneurs aired their concern. With a clear vision of a school in which students would learn the skills necessary to succeed in the new, technologically advanced economy, they opened New Technology High School. It focused on preparing students academically, and with essential skills, by helping them learn to collaborate, innovate, and communicate ideas to solve complex problems. New Tech High School provided a learning environment defined by wall-to-wall project-based and problem-based learning, a deliberately designed student-centered culture, 1-to-1 technology access and targeted student-centered outcomes.

After operating for a few years and experiencing strong results from the first few graduating classes, visitors from around the country began to take the practices they observed back to their communities. With support from the Bill & Melinda Gates Foundation, the New Tech Network (NTN) was created as a non-profit organization to directly support these other schools. As the network of schools grew, it evolved to provide support for a variety of implementations and for many different demographic and community types. Organisational funding and infrastructure support from KnowledgeWorks Foundation was instrumental in NTN's development. Key program grants from the William and Flora Hewlett Foundation and the Carnegie Corporation helped to develop an effective research and development function. Nearly twenty years after the first school in Napa, there are now nearly 200 schools, in 28 US states and Australia, including elementary and middle, as well as high schools. NTN is one of the fastest growing school networks in the USA, with a proven approach for student success. The aim of the network is to create a true community of learning, in which teachers are connected to a vibrant educator community that spans geography and governance structures.

NTN is now considered to be a leading design partner for comprehensive school change, working with districts and charter organisations to design innovative learning environments and pursue ongoing improvement. The New Tech design acts as a blueprint, and is accompanied by a set of core beliefs, tools, and strategies. They support schools to adopt four design principles:

- an instructional approach centered on project-based learning;
- pursuit of outcomes that matter such as collaboration, written and oral community and the development of student agency;
- a culture that empowers students and teachers; and
- the integrated and enabling use of technology in the classroom.

Support from NTN costs between \$100,000-\$120,000 per year for each school (before investment in technology). While this is a significant fee, it includes coaching support, training, professional development, and access to the knowledge and experience of all the other schools in the network. Schools and districts have done everything from pass school bonds, apply for state innovation grants, apply for private foundation grants and lobby districts for the money to gain access.

What does learning look like: pedagogy, practice and culture

The New Tech pedagogical approach centres on a tightly structured visioning of inquiry-based instruction, beneath which lies a deep commitment to student empowerment and agency. Integrated, interdisciplinary curricula - tied to standards - is designed into meaningful projects that require students to answer challenging questions or solve complex problems. Schools also pursue problem-based learning (PrBL) - a form of inquiry-based instruction used primarily in Mathematics that places the students in several smaller Problem scenarios rather than a single, large Project scenario. Much of what makes PBL so successful is present in a PrBL environment, including best practices such as Entry Events, the Need-to-Know (NTK) process, as well as student-centred scaffolding. Big blocks of time and team-taught classes create the conditions for teacher collaboration and challenging integrated student assignments. Teachers also use collaborative protocols to provide constructive feedback, and share the leadership of the learning community with their students.

The New Tech approach is very explicit about the type of culture it seeks to build. Each NTN school promotes a culture of trust, respect and responsibility; this encompasses both student and professional culture. Students and teachers alike have ownership over both the learning experience and their school environment. NTN schools build this culture of empowerment through a number of common cultural practices such as advisory courses, community meetings, student-led clubs and projects and restorative behaviour policies. They also give students roles as school ambassadors, with significant responsibilities, such as providing school tours, from High school all the way down to elementary. What would seem extra-curricula to others, is actually part and parcel of the learning experience, with students being assessed on their performance in these everyday cultural practices.

NTN Schools target a broad set of school-wide outcomes, epitomised by their commitment to elevate student agency as an outcome on par with other more conventional outcomes. They track and teach for agency alongside competencies that they consider to be critical for college and career readiness, such as written communication, knowledge and thinking, oral communication and collaboration. Mastery of knowledge and of these critical skills is the overarching goal at the heart of New Tech Network.

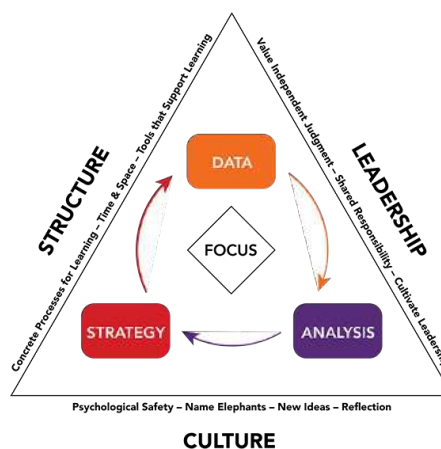
Somewhat expectedly, a key aspect of the New Tech approach is how to leverage technology that enables the learning that schools want to see. Through a technology-rich environment, students at New Tech schools create, communicate, access information and experience self-directed learning (many have one-to-one programs). At the heart is the ECHO Platform - a learning management system, designed to support personalised, project-based learning. Students access and direct their learning without the need for teacher-to-class instruction. ECHO helps to ensure that each project is standards-based and are aligned to deeper learning and school-wide learning outcomes. Teachers also benefit from the platform, gaining access to an extensive library of course resources, exemplar projects, project plans, assignments and instructional resources, all of which that they can adapt. They're able to map standards-aligned content as well as additional curriculum within projects using digital tools, curated content and rigorously designed rubrics. The platform also enables mastery-based learning through it's innovative gradebook that aligns to deeper learning and school-wide learning outcomes, rather than simply assignment completions. Parents, students and teachers can track progress, with the latter able to differentiate through ECHO - making targeted interventions for groups of students or single individuals.

Their journey so far: vehicles for growth, strategy for scaling

Over the past 20 years, the New Tech Network has been at the heart of an education movement in the US that advocates for the marriage between deeper learning and personalised learning. They have developed and scaled an effective model and empowered principals, teachers, and students to achieve excellent outcomes. NTN schools consistently outperform national comparison groups: 2017 saw NTN schools attain 92% Graduation Rate, 9 percentage points higher than the national average and saw NTN students persist in college at a rate of 82%; while a year before data showed that NTN students grew 61% more in higher order thinking skills between freshman and senior years than comparison groups.

NTN's growth is grounded in their proven school model and reputation for impressive results. Their robust national network of schools consistently develops students that can think critically, manage their own learning, collaborate and communicate effectively. Success breeds success. Yet beneath this is a comprehensive and sophisticated strategy for whole school change. What's perhaps most noticeable to the growth strategy of NTN is its commitment to both improving project-based learning practice and cultivating a broader school culture. While many organisations aspire to solely improve practice, NTN pursue a change journey with their school and district partners to reinvent schools across a number of years. This ambition has been resisted by many other leading education organisations, knowing the difficulty of school redesign, yet NTN seem to have found a sufficient balance between ambition for wholesale change and the ambition of the school model. Critically, they have embedded a notion of school-readiness into their strategy, conducting visits and assessments to assure a school is in the position to embark on this journey. One way they do this is through their recently launched New Tech Teams initiative, which gives school teams the opportunity to pilot the ECHO platform and school model inexpensively, across a grade level team, and to be qualified as 'ready' if they wish to fully commit to the network. These teams will serve as a starting point for transformation and an accelerant for further school-wide efforts.

Learning Organization Framework



Partnering with NTN means receiving a holistic package of support. Schools and districts gain access to ECHO (the NTN's proprietary learning management platform), a library of tools and resources, various training events, implementation plans and school success rubrics. Underpinning this access to the 20 years of knowledge that exists within the network, is a team of coaches that work with partners to navigate their school change journeys. They enable leaders to plan by design, exploring leading practice across the network and designing an implementation strategy that adheres to the NTN Design Criteria (including purpose, professional development, staffing, and instruction) but that also responds to their individual context. This strategy has resulted in like-minded schools sharing a common learning model and platform, while taking many different forms: from urban to rural; STEM-focused to arts-focused; magnet schools to dropout recovery schools. Critically, this isn't a drop-and-go strategy. NTN provide ongoing support through on-site and virtual coaching, acting as a safety net as well as a professional development tool. NTN coaches will often facilitate face-to-face events and virtual workshops for targeted schools and districts which focus on a specific principles and practices of the New Tech design, to supplement NTN's national events.

NTN's ECHO platform allows schools to more easily exchange best practices, collaborate in real time, connect and share projects, and develop cross-school projects for students. But NTN have invested further in activities that build a learning community amongst schools and districts, nationwide, and drive forward innovation and continuous improvement from within. Beyond national events, and the sharing of resources developed across the network, NTN also encourage practitioners to conduct research related to the NTN design through financial awards. This supplements their efforts to support schools with high quality research and measurement as a strategy for improving their programmes. The NTN research team conducts its own research and partners with external experts to document and develop understanding of the impact of a New Tech Network education. The network also presents education innovation awards at their national conference as a way to incentive and drive forward innovation and improvement from within.

What binds this growing network together is a set of shared learning goals, a common approach to learning, common tools and systems, and an adult learning community where innovation and improvement thrives. The NTN is seen to be one of the most advanced and sophisticated examples of a Platform-Centric School Network.

"Next generation learning incorporates blended, personalised, and competency-based learning with sophisticated designs and tools. Breakthrough learning formats will share powerful learning platforms. Rather than top-down deployment across a district, these combinations of learning models and platforms are more likely to be adopted by schools or feeder patterns."

— Tom Vander Ark, CEO of Getting Smart

NTN have bucked the trend of other school networks in continuing to attract schools, growing by about 10% annually. It would appear that schools and districts are responding to the offer of a change journey that challenges some of the ingrained conventions that exist around introspective school capacity development and improvement, and overly standardised models of schooling and learning.

“What sets Networks apart are ways to focus on collective capacity building—helping schools learn how to learn together, collaborate effectively and become highly adaptive systems.”

— Lydia Dobins, President and CEO,
New Tech Network.

With a growing network, a proven model, and a demand for more district-level support, NTN are increasingly a catalyst for rapid innovation, improvement and scale. Public school districts are now turning to NTN to support the spread of innovative practices across multiple schools at all grade levels.

Takeaways on Human-scale at Scale - New Tech style

The New Tech Network story depicts a tightly controlled spread of a tightly defined school model. The change that the network seeks to catalyse in existing schools and districts is highly ambitious, and has required a less radical model of student-centred, project-based learning compared to other outfits in this space. Taking nothing away from the success that the network has had, it seems important to recognise that in working with so many existing schools (90% of which are district schools) their model has required lower barriers to entry than other innovative approaches that are emerging across the US.

Despite these lower barriers to entry, we can't ignore the rigour in which the network supports schools to adopt its approach. Of significance is how they support schools and districts to not just design for high quality practice, but also for high quality school culture. Common rituals and cultural practices seem to anchor the model deep in the ground of each school. In this respect, NTN recognise the importance of transforming a whole school, not just practice. Yet this doesn't manifest in top-down, prescriptive whole school designs, but rather core structures that can be fitted into a diversity of contexts.

While there are reports of variant quality across the network (unsurprising at this level of spread), the fervent commitment to creating value for schools (so they join and stay part of the network) as well as the commitment to innovation and improvement through high quality professional learning, provide confidence that their impact at scale won't be compromised.

As districts start to implement the NTN model and turn one successful school into many, multi-school organisational change has become a major expansion strategy and the next frontier for New Tech Network.

NEW YORK CITY iZONE

'making schools the centre of innovation'

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The challenge we face is nothing less than transforming our schools from assembly-line factories into centres of innovation.

— Michael Bloomberg,
Ex-Mayor of New York City.

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What are they all about: mission, vision and values

For most of the second half of the 20th century, fewer than 50% of New York City public school students graduated in four years, with rates significantly lower for African American and Hispanic students. In 2002, under the guidance of the newly elected Mayor, Michael Bloomberg, the New York State Legislature approved the mayoral takeover of the NYC public school system. The New York City Department of Education (NYCDOE) launched a program called *Children First* with the aim of empowering schools and their educators, building reciprocal accountability between the department and schools, and improving leadership capabilities within the system. This involved the elimination of an entire layer of middle management with the devolution of central functions to quasi-independent learning support organisations. Networks of schools were established around these learning support providers, with school principals free to make their own choice of provider and network. Results from the *Children First* reforms were very promising: improved academic achievement, increased high school graduation rates from 45% in 2005 to 65% in 2011, safer schools, more school options, new buildings and thousands of new school places.

In spite of the steady climb in high school graduation rates, only one in four of the 50,000 high school graduates in 2011 were eligible to enroll as a first-year student at one of the City Universities of New York without requiring remedial course work. Almost a third of high school students were not graduating within four years. And even though two-thirds were, only 16% had a college ready diploma. The African American and Hispanic student graduation rate was markedly lower than that of their white and Asian counterparts (around 45% compared to 65%), and there was a huge variation between schools across the city: an issue that the Chancellor - Joe Klein - often highlighted by asking NYCDOE staff if they were prepared to have their children randomly assigned schools.

So while taking pride in the improvements and past successes, the system's leaders consistently articulated a dissatisfaction with the present and re-articulated their aspiration for every student

to be college and career ready. They recognised that their instructional energies were focused on managing groups of students through an industrial-era model of one-size-fits-all. They also recognised that this industrial model of schooling was exhausted and would continue to fail to prepare students to succeed in the adult world of the 21st century. While clearly identifying the problem, they also identified a solution - a system focused on personalised learning in which school was designed around the unique strengths, interests and needs of each student.

Leaders acknowledged that to effect change across the entire public school system, and one as large as NYC, it would be radically insufficient to just develop a set of exemplary elements of innovative practice or even a number of exemplary schools without setting this firmly within a strategy for scale and spread. They sought to leverage the 'creative deviants' that they'd noticed within the system - schools that had strikingly better results, not through strict compliance with central frameworks, but because of the development of practices and methods that often broke the rules, made possible by the passions and commitments of some maverick principals.

In Spring 2010, recognising the energy, ingenuity and commitment that was present in (some) schools, the NYCDOE launched an intentional innovation strategy - the NYC innovation zone (iZone). The iZone was designed to act as an incubation lab and works on three levels: supporting innovation in schools, creating and stimulating external markets, and fostering wider systemic innovation. At the school level, initiatives were developed to support personalised learning methods, such as blended learning; at the market level, challenges and hackathons were launched to stimulate the edtech community to develop software solutions that met real learning needs; at the system level, the iZone advocated for important policy reforms to enable innovation in schools.

The iZone was a system-wide strategy to create something new: to push existing system and policy boundaries in order to design and test new learning models that will support students' college and career readiness. The iZone represents system sponsorship for the process of rethinking the current structures and cultures of an education system and its schools by asking, "How can we personalise learning for every student?"

What does learning look like: pedagogy, practice and culture

Rather than a one-size-fits-all education, the iZone approach sought to shift school design, practice and learning towards more personalised strategies. That meant encouraging and supporting schools and educators to move toward flexible instructional models in which scheduling, space, technology, instructional materials, assessments, and staff time revolved around each student's needs, interests, and motivations.

Schooling would no longer be about advancing students through grade levels based on age and time spent in class, instead supporting students in building the skills, knowledge, and dispositions they need to be successful. Learning would be about each student mastering skills in their own way, at their own pace. Students enter schools as individuals – with a diverse set of needs and capabilities – and therefore schools needed to reorient themselves to treat students as individual learners, where every child has a unique education plan with his or her own path to academic success.

The iZone didn't mandate any overarching model or set of practices. Rather, it put forward a vision, built and supported a culture and capacity for innovation, and mobilised a broad education ecosystem. The development of innovative approaches was guided by four pillars or principles:

- personalised learning plans and progress;
- flexible and real world learning environments (multiple learning modalities, learning anytime, anywhere, on- and off-line, project-based);
- next generation curriculum and assessment;
- new student and staff roles (advisor, tutor, mentor, designer, facilitator, peer-tutor).

Their journey so far: vehicles for growth, strategy for scaling

During the 2010-2011 school year, the first community of 81 iZone schools was established. The number of schools involved grew to 239 in the 2012-2013 school year, with the goal to have 400 schools in the iZone. At its height the iZone included approximately 300 schools from across the city covering over 180,000 students. NYCDOE knew that, in this city especially, one cannot 'command and control' from the centre. Instead, school leaders and teachers were required to opt-in through a rigorous application process, in order to be part of the iZone. In exchange for certain benefits (access to new instructional tools, encouragement and support in reimagining many of the conventional inputs to school structure, release time and money for professional development), iZone schools agreed to participate in iZone programmes or a variety of professional learning activities such as *Affinity Groups*, which meet once a month or more, to problem solve and share emerging best practices.

The iZone's first programmatic outing was iLearnNYC - a blended learning platform populated with content from a dozen publishers and supported by extensive training and professional development provided by iZone staff. The iLearnNYC programme sought to develop and exchange technology-enabled learning resources that personalise, extend and deepen learning experiences for NYC students. A designated subset of iZone schools - initially eight 'Lab Schools' - were selected to test and evaluate new approaches to blended learning, utilising various aspects of the platform. Each school had their own unique mission to use technology to personalise learning for every student in order to prepare them for success in school, college and career, but were required to work 'on behalf of the system'. Each Lab School was selected through an application process, where a specific theme and implementation model was identified. After the first year of implementation, Lab Schools were asked to mentor 15-25 other schools, with the support of an NYCDOE Implementation Manager, in order to share promising practices for the effective and efficient implementation of blended learning. Each cohort was designed to have common identities - they were all high schools, or intermediate schools or over-aged, under-credited transition schools. Eighty-one schools joined iLearn in its first year. Eventually iLearn grew to more than 300 middle and high schools whose intensity of use varied from occasional online credit recovery to full-blown blended learning and flipped-classroom models. Off the back of this, iLearnNYC and iNACOL produced a roadmap which captured what they'd learned about how to implement blended learning successfully at a school level.

There was also appetite from some schools to go beyond new technologies and focus on whole-school redesign. In response, the iZone launched an additional programme - iZone360. They recognised that for any emerging innovations to be successful, schools need to rethink how they fundamentally organised themselves. iZone360 convened a community of practice in which opted-in schools explored how they could redesign their school model to enable and integrate innovations and practices emerging within the iZone. Over 50 middle and high schools were part of iZone360 for the 2012-2013 school year. They were given the license to reimagine school on behalf of the system, and were supported by Design and Innovation Partners from across the ecosystem. Representatives from Kunskapsskolan, New Tech Network and the Reinventing Schools Coalition coached them through rethinking school design elements such as place, space, time, scheduling, and teacher roles.

"We're experimenting on behalf of the wider system. I like the idea that schools shouldn't exist in isolation, that this think-tankery, coupled with experimental innovative practice, could be shared out."

— Brooke Jackson, Principal, NYC Lab School for Collaborative Studies.

As a way to mobilise the market within this system-wide strategy, the iZone launched [InnovateNYC](#) - a programme in which educators and students who understood school and classroom needs were connected with edtech companies who were developing innovative teaching and learning solutions. Acting as test-beds, pilot schools would test out component innovations, evaluating the impact on practice and student outcomes. This feedback loop guided edtech companies to develop and refine their products to be more relevant to NYC classrooms. Innovate NYC was established through the USDOE Investing in Innovation (i3) grant program to foster a thriving edtech ecosystem for NYC schools. It has since evolved to involve a rigorous edtech research and evaluation process, developed by the iZone called the Short-Cycle Evaluation Challenge (SCEC). Short-cycle evaluations are semester-long studies of edtech products used by teacher teams in their classrooms to meet a specific need or issue identified. Throughout the process, teacher teams collaborate with edtech companies and researchers through workshops and school visits to improve their teaching practice and provide feedback on what's working. An example of a successfully incubated innovation is [School of One](#), now known nationally as [Teach to One](#), an innovative rotational blended learning model for personalised, middle school mathematics instruction.

Beyond these programmes' cohort models, promising innovations were intentionally spread through other iZone initiatives. A number of Design Challenges - an iZone approach to problem-solving that models itself on the successes of hackathons and innovation challenges in other sectors - acted as a lever to spread both innovations and knowledge. They socialised much of what had been learned in the core programmes, and mobilised the broader education system around specific problems. Critically they also very intentionally spread awareness of the design thinking processes that were in play across the education community. The iZone also founded the Blended Learning Institute - a professional learning body that prepares math, science and computer science teachers to lead 21st century classrooms. It supported educators to effectively integrate traditional instruction with digital tools and online content. Much of the knowledge that exists within the Institute came from understanding of best practice from other iZone programmes and initiatives.

Today, the iZone is a shadow of its former self, having faced Mayoral administrative changes and a subsequent reduction in funding and prioritisation. The office within NYCDOE also experienced significant churn in personnel, culminating in a smaller, less resourced iZone team. By September 2014, less than a year into the new administration, 80 percent of iZone senior leadership had departed. iZone360 - the original whole-school redesign program - which had later also taken up the framework of User-Centered Design/Lean Startup Challenges - was dissolved. The remainder of the Innovate NYC Schools team and the iLearn programme was transferred from the disbanded Division of Talent, Labor, and Innovation to the IT Division. The fact that they were subsumed within one of the offices whose behaviour the strategy had sought to change epitomises the retreat from a coordinated and deliberative innovation and diffusion strategy.

The new administration is a more risk averse one, that favours some of the more traditional structures that existed prior to the iZone. A return to a borough model of system organisation,

undermining the Lab/Cohort model at the heart of the iZone, placed limits on what the NYCDOE could do to spread emerging practice. While the Progressive Redesign Opportunity for Schools of Excellence (PROSE) offers somewhat of a legacy piece, offering schools with a “record of success” the opportunity to bend the city contract rules to experiment with personalised and blended learning ideas, this is severely constrained compared to years gone by. Instead of ambitious system-level strategies, the administration favoured small scale tests that developed explicit proof points which could then be transferred through professional development activities - a more conventional notion of how change occurs.

Takeaways on Human-scale at Scale - NYC iZone style

New York City's iZone was a unique strategy to orientate an entire school system towards student-centred learning. Fundamental to its success was the recognition that to achieve this ambition, scaling a definitive new model would be too difficult. Instead, it was about spreading a multiplicity of different approaches, practices and school designs that have been tested and evaluated. The design principles, well-defined in theory but intentionally open to multiple interpretations in practice, were sufficient to steering the ship.

“The iZone team recognised that getting an idea or concept to spread and grow requires more than just evidence that it works but requires demand from the end-user. Rather than dictating scale, iZone sought to sow the seeds of transformation.”

— David Jackson, Senior Associate at Innovation Unit, iZone360 coach.

The real lesson to learn from the iZone journey is how the diffusion strategy was underpinned by teachers and school leaders within the system having both a sense of agency and the innovation capabilities to continuously pursue radically change. So much of what the iZone achieved was down to changing individual mindsets, not just introducing new practices. When players across the system are equipped with the capacity to innovate for themselves, introducing and sustaining innovative new approaches to personalised learning will become increasingly widespread. The ability to see innovation not just as the adoption of new tools, but a set of habits/mindsets and processes for iterative problem solving, has the potential to be transformative.

“Education is like building the plane while you're flying it, and this administration has made me feel as if I can remove my seatbelt and walk around.”

— Nancy Logozzo, Principal, Hudson High School of Learning Technologies (iZone360 school).

LINDSAY USD

'no-one falls through the cracks'



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These students were a gift from their parents to us and our results showed that we had failed far too many of them, sending them into the world ill-equipped academically and personally. We had to do something transformational.

— Tom Rooney,
Superintendent, Lindsay
Unified School District.

What are they all about: mission, vision and values

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In 2007, in a remote, sleepy town at the heart of orange-growing country, California, Lindsay Unified School District (LUSD) came to the painful conclusion that they were failing far too many of their kids. With 4,100 K-12 students, all of whom qualify for free and reduced lunch, 52% are English language learners, 56% live in poverty, 44% live in homes where one or both parents did not graduate from high school and 15% meet the federal definition of homeless, only 25% of students were proficient in reading and only 28% in math. While 76.5% of students graduated from Lindsay's one and only high school, the class valedictorians who enrolled in colleges in the University of California system were regularly stuck in remediated course work. Too many students were falling through the cracks of the traditional system, either failing to graduate from high school, or struggling to complete college education. Some had been left even further behind. Superintendent Tom Rooney has often shared with visitors the heart-wrenching story of a parent bringing his son in front of a district official and asking him to read the front page of a newspaper - he couldn't. And this child had just graduated from Lindsay high school.

“In Lindsay, we have sent forth a lot of kids and young adults into the world who are not ready to be effective contributors to society... I say we own that.”

— Tom Rooney, Superintendent,
Lindsay Unified School District.

Enough was enough. Lindsay embarked on a journey to transform learning in their district. They didn't just tweak what currently existed, they dismantled the entire education system. Within two

years, LUSD had begun revolutionising its administrative structures, school facilities, teacher training, and curriculum, steered by a Strategic Design, co-designed with the community themselves. The vision was a learner-centred system that prepared graduates for success in life beyond high school. LUSD shifted from progression based on time, to one based on proficiency, dubbed the Lindsay Performance-based system. Learners work towards both cognitive and non-cognitive or life skills - outlined in Lindsay's life-long learning standards - in a manner and pace that is appropriate to each learner, advancing only when they've demonstrated proficiency.

10 years on and Lindsay's approach has evolved and matured into one of the nation's most successful competency-based learning models. While the district has seen incremental improvements in test scores and graduation rates, it has dramatically improved on other intermediate, yet meaningful, indicators such as reductions in suspensions and gang violence. This success has given LUSD the confidence and motivation to continue on their transformation journey, while offering support to others in their own journeys towards proficiency/competency-based learning.

What does learning look like: pedagogy, practice and culture

The first thing one might notice about life in Lindsay's Unified School District (LUSD) is the language used. You'll hear very few 'teachers' or 'students', but plenty of 'learners' and 'learning facilitators'. Classrooms are learning environments, and schools are learning communities - everything is focused on learning. This may seem superficial, but it represents a powerful cultural commitment to shifting the mindset and norms within LUSD.

Other features of the traditional, failing model have been swept aside in Lindsay. Learning Facilitators are encouraged to design learning experiences that allow learners to explore their interests, passions and real-world experiences, rather than solely relying on predetermined content. Learners no longer advance through the system because of age or grade-level, rather, they are met at their developmental level and progress through required learning based on performance. Rather than advancing at the same rate, regardless of their proficiency, each individual learner advances when, and only when, they have demonstrated mastery of the content standard. Critically though, Lindsay's Performance-based system recognises the importance of timely progress. Learners are expected to learn at their Learning Facilitator's pace or faster, and are supported with a Pacing and Capacity Matrix. Learners who aren't progressing at that rate are provided with intensive corrective instruction and interventions. Despite this tight facilitation, learners are able to negotiate with their Learning Facilitator around how they go about mastering the content, as well as how they demonstrate proficiency (assessment), thus giving them voice and choice in their learning journey, not just control of the pace. Rubrics and exemplars ensure each learner knows what proficiency looks like.

The first things learners do when they walk into a classroom is check a large matrix chart at the entrance, displaying the status of each student, the learning standards they've mastered and what they have yet to do. The learners navigate the matrix, finding their name, and their scores on each learning standard. LUSD have begun to trial EMPOWER, a learning management system that can help to track proficiency and enable their performance-based system of learning. Like other platforms that support personalised learning, students can access playlists of standards-aligned content 24/7, and progress through at their own pace. EMPOWER allows Lindsay learners have sight of what they are learning, why they're learning it and how they can go about mastering it. It also allows Learning Facilitators to differentiate through their proficiency dashboard. Through real-time progress monitoring, Facilitators can track where their learners are advancing and where

they are falling behind, responding quickly with some individual or group interventions, through needs-based grouping tools. The platform also allows parents, learners and facilitators to communicate and collaborate around the one thing that matters - learning.

LUSD pursue a unique blend of cognitive and non-cognitive standards. The Strategic Design outlines a set of Lifelong Learning Standards that prepare Lindsay learners to assume responsibilities in seven 'spheres of living'. They identify what learners need to know, understand, and do in order to thrive:

- A Well-Balanced Person (The Personal Sphere)
- A Self-Directed, Lifelong Learner (The Learning Sphere)
- A Caring, Compassionate Person (The Relationship Sphere)
- A Civic-Minded Person (The Civic Sphere)
- A Responsible Global Citizen (The Global Sphere)
- A Quality Producer & Resource Manager (The Economic Sphere)
- A Culturally Aware Person (The Cultural Sphere).

This elevation of broader lifelong learning outcomes manifests itself in how as Lindsay learners advance, they increasingly become accountable for their own learning.

What makes the Lindsay Performance-based system tick is a commitment to a growth mindset. Learners are encouraged to have the perspective that no-one is born smart, but rather that people learn at different paces, and that's okay. Equally, it takes Learning Facilitators to have a growth mindset too. Coming into a Performance-based system from a traditional model requires a shift from a fixed mindset, to one that sees their job as to personalise for every learner not to teach to the middle. There is an explicit understanding that mistakes are inherent in the learning process, and that mistakes are opportunities to both help students learn and to provide feedback to teachers on instructional practice. It's a continuous improvement approach in which both students and teachers are learning.

Their journey so far: vehicles for growth, strategy for scaling

The transformation journey that LUSD is travelling is a fascinating one. While test scores have only responded incrementally, what excites educators at the heart of this is how LUSD went from the 50th percentile to 99th in terms of the California School Climate Report Card - a state normed index that measures several factors that are known to influence learning success in schools. They're excited about how, since 2007, self-reported gang violence dropping from 17% to 3%, suspensions had reduced by 41% and attendance of 4-year college attendance has risen from 21% to 42%. Why? They see this as a sign that Lindsay learners are increasingly invested in their learning.

The success of the Lindsay journey so far, in which their Performance-based system is now operational across the whole district (8 schools in total), has its roots in community mobilisation and buy-in. Instead of starting with new technology, grand plans for innovation, or even money, the district engaged with the community it sought to serve and asked one very important question: what kind of learners did they want their kids to be? They engaged diverse voices: educators; principals; district leaders; parents; union leaders; city officials; and community members, in creating a new vision for learning, culminating in the Lindsay USD Strategic Design. It established a clear mission for the district, defined the core values, the guiding principles to be used when making decisions, the vision for the future and the Life Long Learning Standards to be developed

in each of their learners. But what is most powerful about this document is that it is a living, breathing one, not just a file in a drawer. Superintendent Rooney has a copy on him at all times. Teachers cite it when prompted on why they have taken a particular turn in their practice. It acts as both the north star and the glue in building the learning system that the community desired.

"We believe kids learn in different timeframes and in different ways. We are committed to these guiding principles and building a system that honors them. That's the key."

— John Caesar, Director of Technology and 21st Century Learning, Lindsay Unified School District.

Lindsay's journey is one of continuous improvement. District leaders and principals, while guided by the co-designed Strategic Design, were clear from the outset that they didn't have a defined set of practices, nor all the answers. This was going to be an organic evolution of ideas, from the ground up, with a commitment to continuing to adapt the performance-based system in order to effectively respond to the needs of their learners. The innovation onus initially fell on school principals to test out some new ways of working, in pursuit of a Performance-based system and the LUSD Strategic Design. First the high school, then after a reorganising of the elementary and middle schools, a group of six K-8 neighbourhood schools. They were given autonomy over how they'd work towards the vision. While this was initially a very positive experience, it left each school highly dependent on their innovative leader, which didn't bode well for sustainability. After this hyper-animation stage, the district office and the group of 6 schools collectively started to find the best elements of these different ways of doing things, pulled them into a tighter, more matured model, and brought the group of schools into greater alignment. In this respect, LUSD built a culture of innovation and shared learning that put rigour at the heart of this developmental journey.

"Over the years there were times, when an unyielding desire to make the theory come true, without being able to exactly articulate how. And so there were growing pains as that process went along. There were convenings, and there were collaborative sessions around specific issues we're facing, and there still are."

— Brian Griffin, Director of Personalised Learning.
Lindsay Unified School District.

Along the way, Lindsay became a Race to the Top-District grantee and continued their transformation with digital content, online resources for learners, facilitators, and parents. The team also increasingly codified Lindsay's vision for learning, curriculum, instruction, assessment, technology, personnel, leadership, and lifelong standards, developing resources, rubrics and tools. Importantly though, leaders insist that when it comes to practice and ways of working, they're open to new approaches. They say that they take an 'if not this, then what?' mindset. If their educators can justify a different method with research, they can try it out and monitor its impact. What's important are the more cultural non-negotiables that are at the heart of the Strategic Design. This culture is reinforced by how LUSD are developing a similar performance-based system for teachers, which ensures they learn as rigorously as their students and that quality is driven up in the same way.

LUSD's success has opened the door to opportunities to spread their approach to transformation. In June 2016, the Chan/Zuckerberg Initiative announced a new partnership with LUSD to scale and support transformative models of teaching, learning, and system re-design in public education beyond Lindsay. 'Lindsay Leads' is a team designed to share the experiences of Lindsay to support other educational entities to transform their systems to personalised learning, and go on their own transformation journey. It's early days, and in true Lindsay fashion they see this as something that needs to evolve. But what they're clear on is that they'll be selective of who they'll work with. They want to work with people who are ready to commit and be invested in a new vision for learning, they don't want to be in the business of converting people. LUSD have also been awarded a \$2.5 million grant, alongside Summit Public Schools, for The Bill & Melinda Gates Foundation called the California Consortium for Development and Dissemination of Personalised Learning (C2D2). By June of 2019, they will develop an open source tool to clearly define personalised learning competencies for various personnel in the learning community. The tool will also identify systemic barriers that stand in the way of mastering these competencies and provide resources that support continuous improvement and development for the adults in learner-centered education.

Takeaways on Human-scale at Scale - Lindsay USD style

Through brave leadership and a fervent rejection of any concept of 'perfection', LUSD transformed from a time-bound, traditional system of schooling to one focused on a proficiency-based approach to learning. Lindsay's transformation is ongoing and organic, and purposefully so. LUSD's commitment to an innovation and improvement mindset that supports those involved to travel a journey together has contributed significantly to its success.

The strength of LUSD's transformation journey is grounded in its origins. By starting with recognition of a fundamental failure, and responding to it with a broad and honest conversation with stakeholders about what learning in Lindsay should be about, they were able to plant the seeds of transformation deep at the heart of the community. From these deep-rooted beginnings, the change process was able to evolve from a position of strength, rather than weakness.

LUSD were effective in managing the transition from testing ideas from the ground up, to codifying a more developed model that can be sustained at scale, while protecting space for individuals schools to flex in response to learner needs and emergent data. This flexibility comes from their deeply embedded commitment to continuous improvement and innovation.

What will be interesting over the next few years is how Lindsay do on a more national stage. Spreading a model is one thing, but spreading a model that has come from a unique and local journey is another.

4. FROM ENGINEERS TO GARDENERS

INNOVATION-CULTURE FIT

As mentioned previously, the narrative around scale and spread leans too much towards the mechanics, levers and *engineering* of change. While many of these technical elements are indeed necessary - financial incentives, regulations, business cases - what the above stories of *Human-scale at Scale* emphasise is that they are woefully insufficient on their own. What's needed, especially for innovative models of student-centred learning, is more of a consideration for what it takes to seed new mindsets, norms, behaviours and protocols in adopter sites - a more cultivating, *gardening* notion of change. There's scaling for growth (mechanism-centric), and there's scaling for impact (cultivation-centric). As the now widely used 21st century corporate proverb goes, "*Culture eats strategy for breakfast, technology for lunch, and products for dinner, and soon thereafter everything else too.*"

Scaling student-centred learning isn't simply about replicating a new set of structures. Each model tends to have a unique culture that is significantly different from what most educators are used to. So when adopting these new models, teachers, school leaders and often learners themselves have to go on a journey of culture change. Such journeys are very personal and cannot be imposed. So any support for scale should be facilitative rather than done to. This may come at a fidelity cost, but without an authentic 'innovation-culture fit' the foundations of adoption are likely to be unstable.

CULTURAL NUDGES

What's also evident in the above six stories is the notion that a collection of soft cultural practices can collectively play a powerful role in instilling and sustaining the essence of a new approach. Similar to the principles behind Nudge Theory³⁰, which draws on research from psychology and behavioural science, these small-scale strategies seek to influence people's behaviour without coercing them. While Nudge Theory proposes positive reinforcement and indirect suggestions as a way to achieve non-forced compliance of good decision making, what we see in our stories are positive reinforcement and indirect suggestions which embody and reiterate the core mindsets, norms and behaviours at the heart of a particular school approach.

Whether it's the use of protocols at High Tech High, student-led tours at NTN, or professional development that mirrors student's learning at Summit and Lindsay USD, together these small-scale *cultural nudges* help to fuse new mindsets, norms and behaviours into the DNA of schools.

What's different to the application of Nudge Theory is that these cultural nudges work alongside a consciousness of change. Unlike Nudge Theory, which seeks non-forced and often subconscious compliance, the *cultural nudges* we see in the stories are coupled with a sense of agency, and a coherent, shared and lived endeavour. They lay the foundations for a much more active, and positive change, rather than what can sometimes seem like change by stealth - far less powerful.

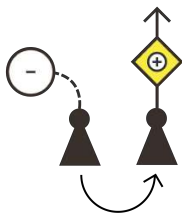
[30] Thaler, R.H and Sunstein, C.R (2008) *Nudge: improving decisions about health, wealth, and happiness*. Yale University Press.

A LEARNING JOURNEY: FROM TOOLKITS TO HEURISTICS

The stories of *Human-scale at Scale* highlight how in some of the most successful cases of scaling and spreading innovative models of student-centred learning, there are explicit efforts to seed and cultivate new education cultures. While each undoubtedly have some technical, structural elements to their approach, it's paramount not to underestimate the cultural dimensions within the change journeys associated with growing and sustaining student-centred learning at scale.

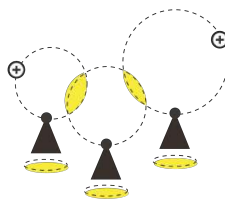
Some common strategies exist across these stories of *Human-scale at Scale*, and lay the foundations for a more *cultural* rather than solely *technical* approach to scaling. It can begin to refine the efforts of philanthropies, system leaders, innovators and educators, to scale new models of learning that are student-centred and reliant on new educational cultures.

So, how can we unlock the human potential in scaling student-centred learning? We must stop thinking about these journeys as a science, but rather as a learning process. Rather than a modular, procedural and generic framing, we must think more about how we can scaffold bespoke human-centric journeys. Rather than a rigid toolkit, some rules of thumb are needed. Here are some starters for ten towards a *Human-scale at Scale* heuristic:



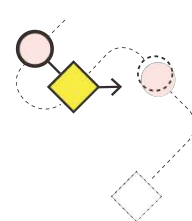
Unlearning to learn anew

'Education is a deeply human system'



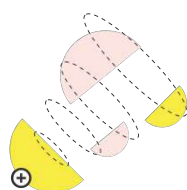
Collective visioning

'A coherent, shared and lived endeavour'



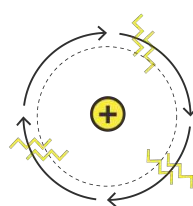
Structures that seed cultures

'Scaffolds for change'



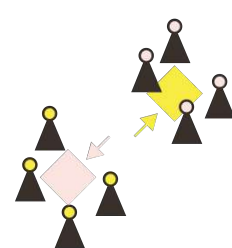
Nimble scaling journeys

'Being innovative around how we scale'



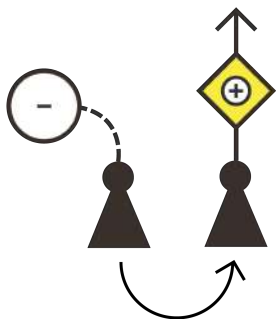
Making change stick

'Sustaining new cultures'



Educators as innovators and collaborators

'Active partners along the journey'



UNLEARNING TO LEARN ANEW

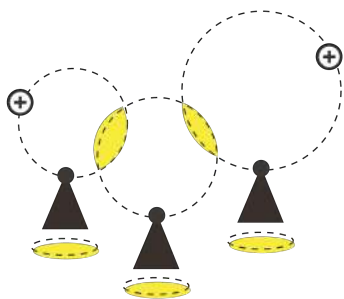
'Education is a deeply human system'

When we think about scaling, often we think about it on a macro scale - tending towards the mechanisms and levers narrative. Yet in reality, the scale and spread of an innovation is made up of numerous individual change processes, happening at individual adopter sites in a multitude of different places and contexts, for many different people. Each of those sites have existing perspectives, and often entrenched mindsets left over from whichever model came before.

We know that shifting entrenched mindsets and existing cultures is hard work, costly and painstaking. For this very reason, many ambitious innovators and leaders explicitly focus on scaling through displacement - that is to grow new provision from scratch and displace existing provision, rather than 'turning it around'. Big Picture Learning for instance are clear that they aren't in the business of turning around schools. Cultivating complex new cultures is easier from scratch in new schools, and they've built a dynamic impactful network with this strategy at its heart. But if we're serious about equitable impact at scale, we can't rely on an system-wide fleet of new schools to displace the old. If we're serious about spreading new education practices and pedagogies within existing schools, there needs to be a recognition that before you can learn something new, there requires a commitment to 'unlearning' the old. A mistake that's often made is to do innovation *to* people - "here's an outline of what we consider to be the new way of doing things - do it well, do it right". Unless practitioners are put at the centre of the innovation process, and invested in as innovators in their own right, the cultural shifts required in scaling new approaches that rely on relationships and ethos will fail to materialise.

For Summit Public Schools, this actually meant involving existing teachers in the development of the model in its early years. At the very least, individuals involved in the eventual adoption of a new approach should be given the opportunity to have what many in the business have begun to call 'aha moments'; when the new approach makes sense in their own terms in their own context. This can sometimes take time, but if success is for the approach to be sustainable and have impact, authentic buy-in must be at any cost. There also needs to be the opportunity for local practitioners to define the new model in their own terms. What's particularly powerful about the Big Picture Learning approach is that the m-word (model) is actually seen to be a fundamental scaling faux pas. Their approach is explicitly described as a *design*, one that guides a local version of the philosophy, principles and practice of Big Picture Learning. Their attitude towards students is mirrored in their attitude towards schools - '*one student at a time*', but also '*one school at a time*'. What this authentic, localised mentality offers is the opportunity for those involved to engage in a negotiation. Practitioners are taken on a journey and supported to navigate the friction between adapting their context (often involving unlearning incompatible norms, mindsets, behaviours) and adapting the innovation. This journey is critical to aligning the core specifications of an approach - its essence - to a new and emerging, locally-owned educational culture.

Acknowledging the need for unlearning to learn anew, we must pay more attention to what determines 'readiness'. What do educators need to unlearn? How willing are they to go on a journey? Is there a commitment to compromise amongst innovators and adopters? Is there a desire for authentic buy-in?



COLLECTIVE VISIONING

'A coherent, shared and lived endeavour'

At the heart of any scaling journey, there needs to be a collective, coherent and shared vision. Now this one might seem obvious, but it shouldn't be undervalued or underestimated, nor is it as simple as one might assume. It's not so much about being able to articulate a collective vision - there are lots of compelling visions that exist out there in education. But it's more about being able to live it. Unless the rhetoric can be embodied in everything that the collective think and do, it's just a bunch of words on a website.

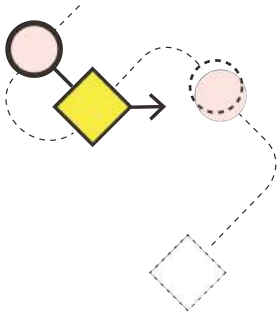
"The mission needs to permeate every inch of a high school and every activity and relationship within it. It survives staffing and structural changes, creating a lasting cultural legacy." – XQ Initiative, The Super School Project

The virtue of living a collective vision is that it binds the efforts of the many in the same direction - a *fidelity of purpose*. This is particularly critical when accepting that any new approach will be adapted to fit the local context. The most powerful collective visions encapsulate a single purpose, as well as a set of design principles. These are principles that codify a commitment to the heart and soul of an approach. Embodying this vision is where the real value lies. It's both a comms game, *and* a learning and engagement game. A collective vision should motivate the collective to embody a particular set of mindsets, norms and behaviours. It must go beyond what we say about a new approach, and actually define our everyday actions and thought processes. At their best collective visions ensure we *practice what we preach*. They build authentic buy-in and ownership of the change that lies at the heart of a new approach. The change is as much for adults/practitioners as it is for students/learners.

"One of the most powerful things you can do is give adults models and experiences that mirror what you are hoping they will do for students. We also call this "symmetry" in our work — that if, as a system level leader, you want teachers to teach students in a particular way, you have to give teachers opportunities to have those same kinds of learning experiences." – Jal Mehta, Harvard Graduate School of Education

Both Summit Public Schools and the Lindsay Unified School District design their professional development to emulate the desired learning experiences that shape the experiences of their students. For Lindsay, teachers take a proficiency-based approach to their professional learning, much like their students. In Summit Public Schools, each teacher has a coach, often the principal, to work towards personal goals, mirroring their student coaching model. Practicing what they preach reinforces their coherent, shared and crucially *lived* vision of what they are trying to achieve. Big Picture Learning go a step further and practice what they preach when supporting new schools to adopt their design. Their strategy for spreading Big Picture Learning emulates the philosophy at the heart of the model, providing individualised support for school leaders through mentor/advisory relationships - one student at a time, one school at a time.

Recognising the power of a *lived* collective vision, we must ask ourselves some hard questions about the extent to which rhetoric translates into mindsets, norms, and behaviours. What are the strategies that build a collective culture? How can collective action be encouraged and supported?



STRUCTURE THAT SEED CULTURES

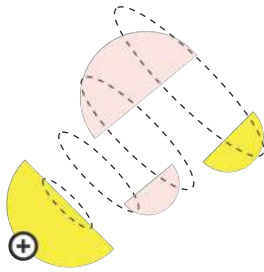
'Scaffolds for change'

Structures still play a significant role in scaling new approaches. Yet too often we try to use them to mandate wholesale and rigid ways of working, with the best case scenario being transactional compliance. Seeding new cultures cannot rely on such passive behaviours. Active and authentic buy-in must be the new end game. Whether its accountability regimes, the length of a single lesson, 'best practice guidelines', or even the positioning of desks and the organisation of physical space, education cultures are merely side products of these *hard* structures.

What we see across the *Human-scale at Scale* stories are structures that are explicitly in place to scaffold the emergence and development of new educational cultures, rather than mandating practice. They seed and support new norms, mindsets and behaviours that underpin the new approach, and best support an active, practitioner-led cultural change journey.

Perhaps the most powerful example of this is the fact that each of the schools in our *Human-scale at Scale* stories are by design small. In each story, designers of the model have generally adhered to the philosophies of the small schools movement, which recognises the value of having each student being 'known'. This is, of course, a structure that seeks to seed a culture of authentic, meaningful relationships between learners and their educators. For places like Big Picture Learning, Lindsay Unified School District and High Tech High, culture development is elevated to the same, if not higher, importance as practice development and occupies the attention of leaders and educators. Peripheral structures such as student rubrics, advisories and student-led tours scaffold the development and reinforcement of both practice and cultures associated with their student-centred learning approaches. Structures that are more central components of school designs can also enable particular pedagogy and student-led culture, for instance how Summit Public Schools, the NYC iZone and New Tech have each sought to leverage digital learning platforms. Other components of school design such as how professional learning is organised, or how the school interacts with the outside world (e.g. Public Exhibitions).

School structures too often influence education cultures through compliance. We need to start thinking of structures that act as scaffolds for seeding and cultivating new educational cultures. How can structures positively cultivate new cultures? Which structures are non-negotiables, and why? Which structures can be flexed to accommodate local context?



NIMBLE SCALING JOURNEYS

“Being innovative around how we scale”

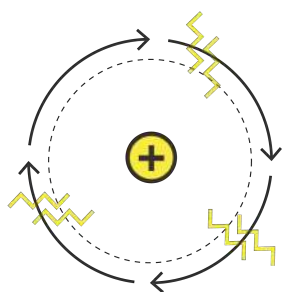
As outlined in chapter 2, when it comes to scale and spread, there’s a seemingly irresistible temptation to respond to complexity with simplicity. That has often manifested in linear notions of scale and spread - a single scaling journey that can be easily replicated.

But we know that culture change is somewhat personal - it’s a journey not just of time and experience, but of people. Whole school change is a culmination of many different, personal change journeys, often motivated by different goals. Some were specifically for improving conventional student outcomes, others for transforming schooling and learning entirely. Accepting and embracing a pluralistic notion of scaling journeys can unlock what it means to pursue cultural change at scale.

The *Human-scale at Scale* stories illustrate how many of the strategies deployed were specifically designed to offer flexibility in how different schools and educators came along on the journey. It’s the recognition that *context is king*, and that, as often and as authentically as possible, these journeys should be adopter-led. The NYC iZone recognised that the size of the ambition and the school system meant that they needed to offer a number of entry points to schools, which ensuring that their individual journeys were all heading in the same direction. They did so through set of design principles and cohort-led initiatives which created the opportunities to find the path which best fit their context. Lindsay USD were nimble in their approach, balancing their desire for it to be a ground up journey, with the realisation that as a rural district, they were likely to experience large staff turnover and would require a more codified model and strategy for induction going forward. Big Picture Learning express a commitment to a plurality of journeys through their school mentorship model, recognising that for their radical model to get the buy-in it needs, those at the site need to see for themselves how the approach can work for them.

“Individualisation to each site and appreciating what their particular contexts are, help us scale in a different way, but in a way that keeps the spirit of division of a school. Eventually you can push them on practice, but you can only do that once you have a relationship with them. We take our advisory model and apply it to our schools and our school leaders” Javier Guzman, Regional Director, Big Picture Learning.

Whether it’s a journey of scale, spread, or diffusion, the distanced travelled is rarely linear or simple. Half the battle is to design a bespoke pathway for the contexts these new models are entering. How can we accommodate change journeys that aren’t all the same? How can we design bespoke pathways for different educators in different contexts? How does this particular model work for these particular educators?



MAKING CHANGE STICK

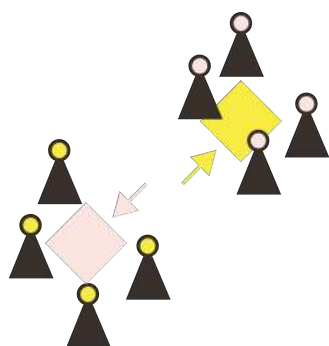
'Sustaining new cultures'

Scaling and spreading new ways of working is hard enough, but sustaining scale can be even more of a challenge. Growth is often the measure of success, but once we begin to orientate ourselves around *impact* at scale, we remember that the hard work is continuous and ongoing.

Investing time, resource and effort in sustaining new education cultures is a necessity. It's easy to be distracted by other challenges that come about in the everyday running of schools, but if the cultural foundations begin to shift, then the whole house of cards becomes unstable.

In the stories of *Human-scale at Scale*, the networks, school chains and jurisdictions have all sought to sustain new cultures through people themselves. Giving responsibility to explicit custodians of culture can help them endure beyond an initial novelty. The likes of Summit, HTH and Lindsay invest heavily in supporting their teachers to play this role. Summit and Lindsay ensure that teachers *practice what they preach*, both implementing mastery-based professional learning that mirrors that of their students. HTH invest in collaboration while giving school leaders and their colleagues autonomy - instilling in their communities of schools a sense of togetherness but not completely the same. Others see culture itself to be student-led. Big Picture empower groups of students to play meaningful roles within network-wide events and professional learning, asking them to hold educators to account for the 'one student at a time' philosophy. New Tech Network schools ensure that students play meaningful roles when welcoming external visitors, with each tour of a school being independently led by students themselves, describing and demonstrating the New Tech approach in their own way. The cultural communities at the heart of these *Human-scale at Scale* stories are reinforced by a commitment to knowledge exchange, rather than simply knowledge transfer amongst educators and schools. To be sustained, those at the heart of these cultures must have a sense of agency, of ownership, of responsibility towards them.

The mindsets, norms and behaviours of educators are fluid. Sustaining a new culture is as hard as introducing it. Who holds and sustains the culture? What investment should be made to sustain it? What are the right strategies for any particular student-centred model?



EDUCATORS AS INNOVATORS AND COLLABORATORS

'Active partners along the journey'

Too often, especially in education, change has been mandated upon educators by higher powers. This can also be the case in strategies to scale and spread innovations. While this may work for discrete products, or individual practice, it is woefully insufficient when it comes to complex, human-centred innovations.

We know that when it comes to student-centred learning approaches, there is a normative shift in how educators need to act, but also *be*. The mindsets and behaviours are often culturally visceral and can't be mandated through compliance strategies. Recognising the need to gain active buy-in, scale and spread strategies must find ways to ensure educators are active partners in the journey that is being taken.

Across the stories of *Human-scale at Scale*, the practice of continuous innovation and improvement within scale and spread strategies have played critical roles in building energy and ownership amongst adopter practitioners. The early years of Summit's approach saw a drastic shift towards student-centred learning led by practitioners. Lindsay USD was explicit in embarking on a ground up, school-led development process during the first iteration of its performance-based system. The NYC iZone was by design a strategy to build the innovation capabilities within the system so that schools themselves could drive the development of new personalised learning practice and approaches. Practitioners across these stories, to varying degrees, enjoy a level of trust from system and organisational leaders that empowers them to own the iteration and improvement of a core vision and set of ideas. Beyond a culture of innovation and improvement, educators have also been encouraged to belong to professional communities across networks, jurisdictions and school chains. At their best, these professional communities go beyond knowledge transfer, and actively engage in knowledge exchange, often scaffolded by sophisticated and innovative professional learning strategies but also through celebrations and exhibitions. Big Picture Learning's Big Bang Conference for instance offers a rich opportunity for practitioners, and better yet their students, to convene as a network of schools to celebrate first and foremost extraordinary student-centred learning, but also reflect on what their model is all about, and how they can continue to offer authentic learning experiences one student at a time.

We need to be more creative, deliberate and serious about how we facilitate and enable educators who are pursuing new approaches to student-centred learning. Change that is mandated from above will fail to ensure educators make the necessarily cultural shift. How can we empower educators as co-owners of a new education culture? What do active and authentic professional learning communities look like? What is the best form of continuous innovation and improvement for these educators?

5. WHAT NOW, WHAT NEXT?

CAUTIONARY TALES FROM HUMAN-SCALE AT SCALE

The above skeleton heuristic is merely a provocation that will hopefully spark a new conversation about how to practically elevate culture change within scale and spread strategies. It is by no means a concrete proposal, but rather an opening to talk to others about what a *Human-scale at Scale heuristic* might look like and how it could be used to accelerate culture change and help make it a tangible component within these journeys.

Much of the motivation behind this report was to respond to some of the trends around scaling and spreading student-centred learning, of which there are some cautionary tales to take from the stories of *Human-scale at Scale*. There are two distinct areas in which this debate around elevating culture change within scale and spread strategies feel pertinent in the US and across the student-centred learning movement at this present time: the emergence and dominance of learning platforms, and the quiet revolution of the micro-school.

Platforms and people

Technology has become an increasingly influential player in education. There's a growing appetite for education technologies, with investment set to reach \$252 billion globally by 2020. Of particular significance to student-centred learning are Learning Management Systems, or learning platforms.

As Tech giants begin to make big moves into public education, there is contention around their intentions. While much of the investment coming from Silicon Valley is philanthropic, some is venture capitalist. Education has long been seen to be the last public sector to be conquered by technology, with a huge potential windfall for companies who gain a foothold in the market. Learning platforms have become a lynchpin in those companies' strategies for two reasons. The first is that these learning platforms are seen as the anchor in efforts to enable personalised or individual learning plans within new school models and pedagogies, as seen in many of the stories of *Human-scale at Scale*. As the student-centred movement continues to grow, so does the market for these types of platforms. The second is that, as products, they offer what appears to be a powerful lever for scale and spread. Rather than having to persuade schools and educators to adopt whole models, they consider a single platform as a much easier entry point - a clear transaction.

Critically, these platforms have a vested interest in scale. Tech firms are, by nature, preoccupied with growth. The faster they can expand the use of their platform, the faster they gather more and more data, which is the fuel for improving the product itself.

"We're going to use scale to get better. Digital learning tends to be scale games. As you get bigger you can make the technology better"

— Phil Regier, Dean for Educational Initiatives at
Arizona State University (ASU)

[31] http://blogs.edweek.org/edweek/on_innovation/2017/06/the_platform_revolution_that_will_power_personalized_learning.html

This is of course not a bad thing. These platforms are valuable tools and the better they are, the more able they are to enable and enhance great learning. But this focus on growth can come at a cost, especially if the goal is to make a significant shift to a new schooling and learning approach. What's being dubbed 'Platform Capitalism' - a business model based on the extraction of value from connecting people into networks and mining their data - runs the risk of relegating the cultural change process that we've seen at the heart of each of the stories of *Human-scale at Scale*.

While technology can be a powerful enabler of scale and spread, especially when taken within a strategy of platform-centric networks, there remains a risk that the shared platform and services (often limited to professional learning and curriculum resources) distract from the change journey that schools and their people must go on. The tech is just one piece of infrastructure in a much more complex and sophisticated picture.

"Platforms will continue to get better and better. We'll begin to see platform-centric networks that allows or even encourage a variety of expressions across a network."

— Tom Vander Ark, CEO of Getting Smart.

As a flurry of venture capitalist-backed new school models burst onto the scene (one to watch in particular is Alt School), we must recognise the limitations of scale by platform and instead reiterate the necessity of scale by people. There is a shift that needs to happen towards a culture that underpins the use of any platform which needs to be cultivated, that nurtures the right mindsets, norms and behaviours, and that is relied upon beyond the digital world.

"We've got to dispel this notion that personalised learning is just about technology. In fact, it is about understanding students, giving them agency, and letting them do work that is engaging and exciting³²"

— Jim Shelton, former Deputy Secretary of the U.S. Department of Education, President of Education at The Chan Zuckerberg Initiative.

The micro-school movement

Over the past decade, the US has seen the emergence of new low-cost private schools, and new 'schools-within-schools', powered by new learning tools and digital software. These 'micro-schools' have set out to serve a small number of students while explicitly offering a way to test and refine alternative approaches to traditional models. The majority are in response to the growing size of traditional schools - offering a human-sized alternative which is more student-centric than local mainstream schools.

[32] <https://www.edweek.org/ew/articles/2017/06/29/chan-zuckerberg-to-push-ambitious-new-vision-for.html>

Micro-schools offer an opportunity to open new schools quickly, at low capital investment. Starting small, in a protected environment which is often outside of traditional accountability measures, allows educators to shake off risk-aversion and pursue both innovative practice and new school designs. These educators are able to be more creative and nimble about what type of data they gather, and more responsive with how they adapt what they're testing. Typically micro-schools will start with evidence-informed designs that can then take a shape that suits a local context or specific need. Many high-profile figures are hedging their bets on the micro-school approach as a way to innovate in a typically traditional and rigid system. Sal Khan, 'the world's best-known teacher', founded the Khan Lab School—a micro-school dedicated to research-based instruction and furthering innovation in education. It develops new, personalised practices that centre around the student, all within a teaching philosophy that encourages meaningful inquiry and interdisciplinary work, and utilises blended learning to meet the needs of each student. Alt Schools, founded by Max Ventilla—previously Head of Personalisation at Google—and backed by venture funding totalling over \$133 million, is a small, technology-enabled network of micro-schools delivering a personalised, whole-child-focused education. Leaders at Alt School have been iterating and developing their learning model during its start-up period by mobilising a network of educators to work towards a sort of blueprint that can be scaled beyond their network of schools.

But micro-schools are not only the preserve of Silicon Valley. In Texas, outfits like A+ Unlimited Potential in Houston have opened flexible middle schools that partner with museums and universities. These schools serve as incubators of what they call G.R.E.A.T Personalised Learning—building classroom community, strengthening student engagement and ownership, prioritising relationships, and incorporating online and community resources. Over the last few years they've tested this framework and have been able to demonstrate significant impact—to the tune of 2.7 and 2.3 years' growth in reading and math skills, respectively. The A+ UP micro-school was initially opened as a tuition-free private school to maximise the innovation opportunity, but has now expanded to become a charter network.

Talent Unbound—another Houston-based outfit—is adapting a version of the Acton Academy model in a micro-school setting. Working from a local church complex, their Learner Driven Communities are run by their students, or 'Heroes', with teachers acting as guides through curriculum designed to focus on "Learning to Do" and "Learning to Be" as much as "Learning to Know." The folks at Talent Unbound are regularly refining their model, recently adapting it to work for their first High School cohort.



"We've seen growing interest in micro-schools from people you might expect, entrepreneurial educators eager to try a new approach to learning at a small, humanizing scale. But we're also seeing interest from unusual suspects like superintendents curious about the power of micro-schooling within a district³³"

— Matt Candler, Founder and CEO of 4.0 Schools

[33] <http://www.gettingsmart.com/2017/04/whats-the-next-big-idea-microschool-networks/>

The micro-school movement is of particular interest to *Human-scale at Scale*, because for many of these newly emerging models, there is the ambition to play a system role, and to either scale their provision, spread their practice or even simply expand the reach of their ideas.

Some are already leveraging the power of networks. As Tom Vander Ark and Megan Mead outline, being part of a network provides some of these emergent models with:

- The ability to take risks, design and innovate new ideas with support and experience of others;
- Curated curriculum materials and technology tools;
- Common design principles that are core to the network model (helps with reflection, implementation and improvement);
- Professional learning and networking opportunities;
- More data to make better-informed decisions — the ability to learn from others within network, either with similar successes, trials and/or challenges³⁴.

As outlined in their article, different forms of network will inevitably emerge from within this micro-school movement, each with varied structural designs.

Yet what is less clear is how these loose, and tight, networks effectively seed and cultivate the cultures at the heart of these emerging models. This is another space in which the sophistication of a culture change strategy is seemingly vacant.

Advantages & Disadvantages of Network Types		
SCHOOL MODEL	Tight	Design Networks: + Open to innovation + Tight on key variables, loose others - Quality varies
	Loose	Platform Networks: + Scalable quality + Microschool opportunity - Challenge to build - Whole school models slow & expensive to scale
SCHOOL MODEL	Tight	Managed Networks: + Implementation fidelity yields quality at scale - Challenge to build - Can repress innovation - Slow & expensive to scale
	Loose	Principles Networks: + Low cost to scale - Low fidelity
SUPPORT/CONTROL		
SCHOOL MODEL	Tight	Voluntary Networks: + Flexible, moderate cost - Low/moderate fidelity
	Loose	Portfolio Networks: + Open to adaptation/themes + Provide options - Moderate fidelity

WHAT NEXT?

Of course, there is no illusion about the resource constraints that education systems face. The opportunity cost that sits behind any expenditure in education is also visceral, and rightly so. That being said, we need to be even more receptive to strategies which can sustain impact, and do so at scale. Education systems can and must make decisions about how we invest limited time, resource and energy in the cultural aspects at the heart of education. Yes, this is deeply challenging, but so is education. It is technically simple, and socially complex. Recognising that the deep transfer of culturally complex practices that meet complex needs takes time and is costly is just the first step. The second is to be bold, brave and innovative in coming up with complex and agile strategies that can cultivate these new approaches at scale. So how can we feel confident in making these investments in the cultural?

[34] <http://www.gettingsmart.com/2017/04/whats-the-next-big-idea-microschool-networks/>

Scale and spread as an educator-led, community endeavour

The *technical* mentality towards scale and spread can inadvertently cause professionals in adopter sites to have limited roles and responsibilities for the change that comes with a new approach.

“We’ve socialised educators in the US to be passive receivers of knowledge that someone else has developed, and told to implement with fidelity. It puts them into a very passive role rather than active learners posing questions, theorising about the practice, testing their ideas against it.”

— Tony Bryk, President of The Carnegie Foundation for the Advancement of Teaching.

Yet what the stories of *Human-scale at Scale* illuminate is how scale and spread is as much with continuous innovation and improvement as it is about best practice; as much to do with social learning as it is about high quality implementation processes; and as much to do with educators development of new, local knowledge, as it is about them responding to what is known more broadly. Rather than having change done to them, (whether through compliance or incentives), there is an intrinsic value in empowering educators to become leaders of the change in their local contexts and beyond. Recalibrating how educators go on their journey towards a new way of working can create space to consider what cultural shifts are at play.

There are existing practices and strategies that emphasise educator-led communities which own and drive change. Networked Improvement Communities³⁵ combine the discipline of *improvement science* and the power of networks to accelerate how a field learns to improve. Improvement science deploys rapid tests of change to guide the development, revision and continued fine-tuning of new tools, processes, work roles and relationships. The Carnegie Foundation for the Advancement of Teaching advocates for a rethink in the traditional R&D processes that have defined education over the last few decades, instead advocating for the elevation of the teaching profession and professional learning communities to one that mimic those of scientists and scientific communities. By enabling and supporting teachers to be more *analytical* in drawing on the best of what’s already known; more *empirical* in testing and refining practice through data collection and analysis; and *social* in how they build on one another’s work, educator-led communities can drive the quality of provision up, and do so at scale through networks.

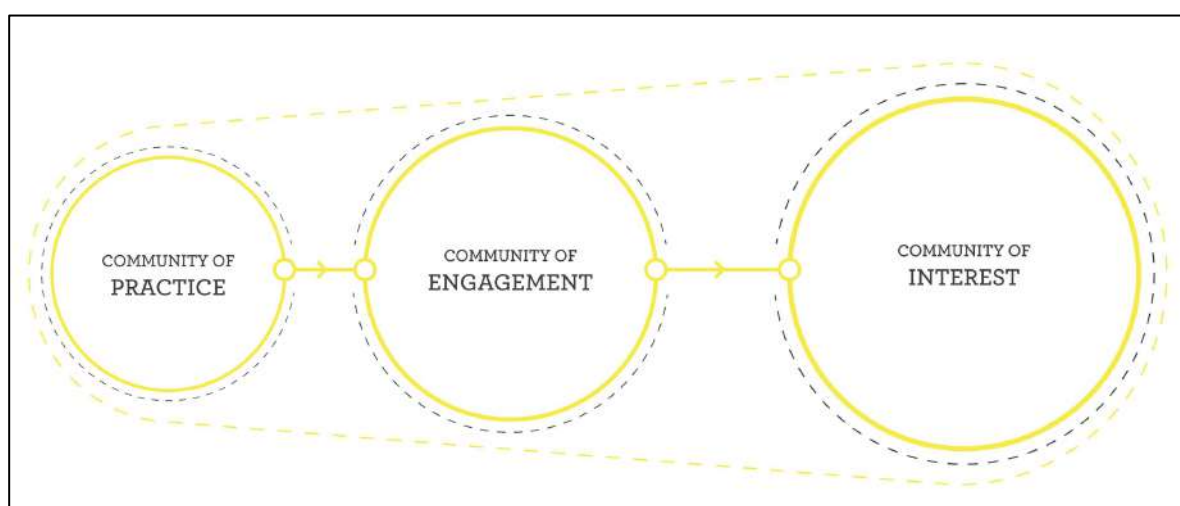
Situated Learning³⁶ - the notion that learning is unintentional and situated within authentic activity, context, and culture - has also shaped how sectors and organisations have sought to change and develop new practice. By acknowledging and sometimes explicitly convening what is now called a Community of Practice³⁷, system leaders recognise that the process of changing practice is inextricably linked to the processes of changing one’s identity in the organisation or professional network in which one exists. That means professionals need to understand and apply new knowledge in their own contexts as part of a community of practitioners, often adapting the practice in the process. Innovation Unit have put much of this into practice, by mobilising and facilitating Nested Communities - the evolution of this thinking - across education, healthcare and local government systems, convening a series of:

[35] Bryk, A.S, Gomez, L.M. & Grunow, A. (2011) Getting Ideas into Action: Building Networked Improvement Communities in Education. Frontiers in Sociology of Education.

[36] Lave, J and Wenger, E (1991) Situated Learning: Legitimate Peripheral Participation. Cambridge University Press.

[37] Wenger, E (1998) Communities of Practice: Learning, Meaning, and Identity. Cambridge University Press.

- Communities of Practice: a community of innovators bringing together groups from across the organisation or system who are committed to developing and implementing innovative solutions to a commonly-held challenge, problem or opportunity. Such communities are structured, facilitated and supported to use disciplined co-design and innovation methods.
- Communities of Engagement: a community of potential adopters or adapters of the innovative solutions. This community is less intensively supported but acts as critical friends to the community of innovators providing feedback on ideas and prototypes and beginning to think through how the solution would work, or could be adapted to work, in their organisation or context, and helps codify the essential principles or characteristics of the innovation and its implementation.
- Communities of Interest: a community consisting of those individuals or organisations who are not yet committed to develop or implement the innovations but express an interest in being kept in touch with developments. A strong communications and engagement strategy is needed here to maintain their interest and build their commitment.



These educator-led community endeavours can play a role in facilitating scaling journeys by placing self-directed culture change at their heart. Investing in strategies which allow teachers to go on a journey, have 'light bulb' moments together, and gain ownership of how these new ideas and ways of working fit into their context. This is, in part, about a re-professionalisation of teaching within scale and spread strategies.

"Transfer of learning in the form of practice involves both a change in practitioners' knowledge and normal practice and an understanding of the underpinning rationale. Without such understanding teachers and leaders struggle to adapt approaches to specific needs and contexts; take up remains superficial. This simple results in a return to the status quo.³⁸"

— Philippa Cordingley and Miranda Bell,
Centre for the Use of Research and Evidence in Education.

[38] Cordingley, P and Bell, M. (2007) Transferring learning and taking innovation to scale. Innovation Unit.

A new role for intermediaries?

In 2012, the federal Race to the Top district competition awarded 16 school districts, educational cooperatives, and charter school districts with more than \$350 million in total grant funding to support efforts to personalise learning and improve student achievement. Since then, support for more student-centred learning doesn't appear to be waning. With a new cadre of philanthropists emerging in particular from Silicon Valley who are keen proponents of student-centred learning, it would appear that this movement is unlikely to dry up any time soon.

But what is *unclear* is how time, resource and money is best spent and what role the intermediaries in the system can and should play. Philanthropists such as the Chan Zuckerberg Initiative are intriguingly cagey about how they will leverage their financial power, perhaps weary of questionable return from their previous investments. Whereas smaller outfits such as the Stanford d.school and their sister School Retool programme, 4.0 Schools and Innovation Unit's recently launched School Design Lab, are all experimenting with different ways of supporting schools to refine, iterate and grow their emergent student-centred learning models and practice.

So what do the stories of *Human-scale at Scale* and the associated analysis mean for these intermediaries? The headline is, of course, that whatever their emergent strategy for scale and spread might look like, it will need to acknowledge and elevate the role of culture change. But there is a more existential shift they must take. They must move beyond the compliance, dissemination and replication strategies of old - command and control has a severely limited return when seeding and cultivating new education cultures. But that doesn't mean that schools and educators should travel this journey alone. A balance must be struck in which intermediaries adopt a new *modus operandi*: one of *stewardship*. They must move from rigid interventions to more agile and dynamic initiatives which both enable and support system and school leaders to travel a journey with their educators. They must be both catalysts and guardians of change, experts and fellow learners, provocateurs of both idealism and realism, critical friends as well as financiers.

With intermediaries as stewards of change, we can better devise strategies that speak to all necessary aspects of scale and spread - both the technical and the cultural. By coming at the challenge as a community of stakeholders who all bring strength and assets, knowledge and ignorance, we can travel the journey towards scale and spread together.

More work to be done

If we've learnt anything from the stories of *Human-scale at Scale*, it's that the journey is rarely ever complete. Scaling and spreading complex, human-centred innovations like student-centred learning is a complicated and complex endeavour. We have only really scratched the surface, but scratched it nonetheless. What comes next are some brave system leaders, maverick educators and ambitious intermediaries who are willing to build on this knowledge base by creating new stories of *Human-scale at Scale*.



Tom is a Project Lead at Innovation Unit, with a particular focus on their education portfolio. He co-leads Innovation Unit's School Design Lab - working with new and existing schools to reimagine schooling and learning, and plays a leading role in their education research. Tom has experience working within education systems across the world, collaborating with individual schools, system leaders, international school networks and leading education thought leaders. His focus lies with school design, system leadership and the scale and spread of new models of learning.

Tom is the co-author of 'Creative Public Leadership: How School System Leaders Can Create the Conditions for System-wide Innovation' and 'Innovating for Global Excellence: Australia's education opportunity'. In 2016 he was awarded a travelling research fellowship by the Winston Churchill Memorial Trust.

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