Creative Public Leadership: How School System Leaders Can Create the Conditions for System-wide Innovation

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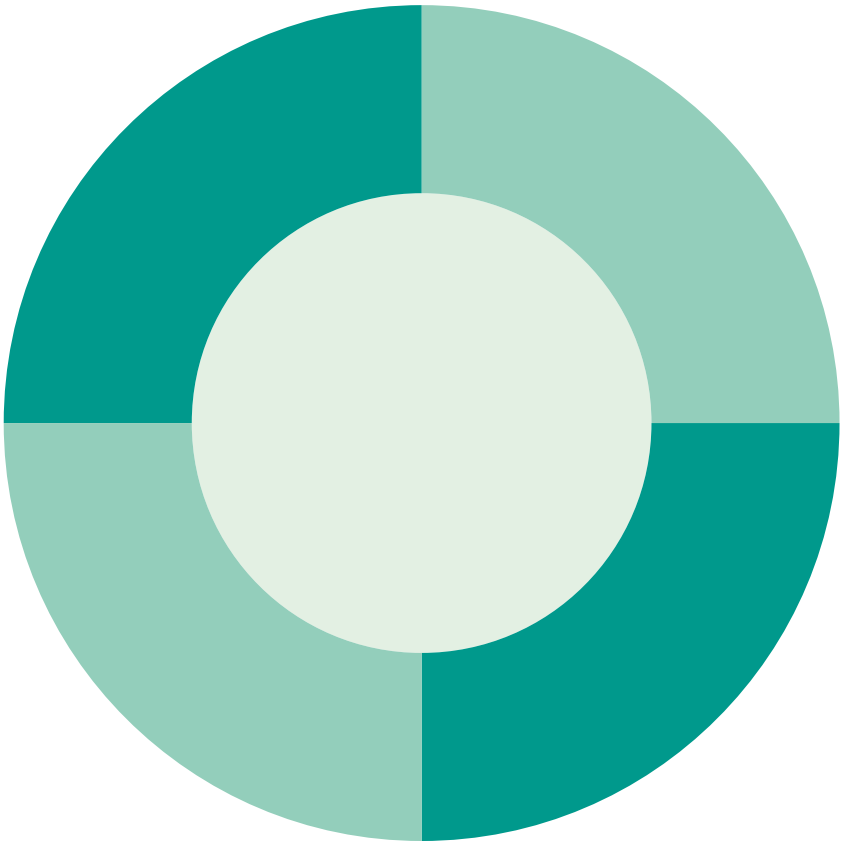

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FOREWORD

If the experience of the business world has taught us anything in the past century or so, it is that innovation is difficult to achieve; and sustained innovation over long periods of time is a challenge that is orders of magnitude more demanding. It is not just a question of coming up with new products and services, or new more efficient processes. Indeed the idea-generating portion of innovation is arguably the easiest part. What is truly challenging is adopting and scaling an innovation to effect company-wide transformation. Every business school student is familiar with the story of Xerox, the once all powerful purveyor of state-of-the-art photocopiers. Xerox believed and invested in innovation. Its Palo Alto Research Center (Xerox PARC) pioneered amongst others, the printer and graphic user interface, better known to you and I as the point and click mouse. Xerox, however, did not benefit from these innovations. In fact it didn't even try. Its senior managers were so wedded to the business of making photocopiers that they dismissed the printer and mouse as little more than 'toys'. We all know how that story ended.

At the level of markets, innovation occurs most frequently under conditions of open access and intense competition. Typically, hundreds if not thousands of firms (most of them start-ups) compete to set the new dominant standard for a new product or service. Once that standard is adopted, however, market consolidation quickly follows. Some companies are acquired or merged but most simply go out of business and the number of active players quickly shrinks down to the single digits. Joseph Schumpeter coined the term "creative destruction" to describe the process thorough which new innovations take hold. This process has played out predictably across markets from automobiles at the turn of the twentieth century to e-commerce and the Internet at the turn of the twenty-first century. As a general rule, the larger and more complex the organisation or system the harder it is to effect meaningful change and the greater the resulting disruption and dislocation.

If large business organisations find innovation difficult and innovation at the level of markets is accompanied by disruption and dislocation then what hope is there for public education systems? Government bureaucracies are not meant to be innovative. They need to perform their functions in a consistent and predictable fashion with little room for deviation from the expected norms. At the same time, it would be politically unacceptable for any government to subject its public services to the full forces of creative destruction.

Yet as this report argues, our world is facing unprecedented challenges. It is becoming more diverse, more complex, less sustainable and less equal. And if we are to mount any meaningful response to the collective challenges we face we have no choice but to change, starting with our public education systems. Rather than focusing on where we need to innovate - something that has been and continues to be debated extensively - this report focuses on the tougher question of how to create public education systems that are conducive to widespread innovation and possess the capacities to adopt and scale those innovations that are shown to work. The authors and contributors make a strong case for a practitioner-centric approach that is informed by evidence-based research and where the natural laboratories for innovation are the classroom and the school.

Stavros N. Yiannouka
Chief Executive Officer
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EXECUTIVE SUMMARY

This report explores how school systems can create the conditions for successful innovation that transform outcomes for all learners. The focus of this report is on learners of primary and secondary age.

The rhetoric of 'education revolution' can close down discussions about innovation before they have even begun, confining debates to the converted rather than the sceptical, and reassuring the confident rather than inspiring the constrained. We need to break through unhelpful divisions between 'progressives' and 'traditionalists' and make a compelling case for ways to achieve the kinds of outcomes all learners will need in the coming decades.

Our report analyses how school systems are performing in and responding to a changing global context. We then offer a brief tour on the science of social and system innovation. Finally, we report on the current state of education innovation, outlining the barriers to progress.

In conclusion, we argue that if we are to improve performance overall, ensure equity, and develop and a wider set of outcomes, then serious, disciplined and radical innovation is required at all levels. Whilst the role of government remains crucial, we need to draw on resources from both within and beyond traditional public institutions.

To move further, faster, we believe that school systems should create intentional platforms for innovation that are future-focused, equity-centred, and teacher-powered.

To move further, faster, we believe that school systems should create intentional platforms for innovation that are future-focused, equity-centred, and teacher-powered. In doing this, leaders should reinforce the fact that the process of learning should be a humanising experience, and that profound learning and great teaching are ultimately predicated on the power of human relationships. We therefore need to aspire towards a humanising innovation, defined by Chappell as *"an active process of change guided by compassion and reference to shared value"*.

If transformation is to come from within education systems themselves, rather than left to market forces or developments in technology, then it will depend upon the emergence of a different kind of leadership. System leaders need to support schools to think more often, more deeply and more radically about their mission. Whilst systems can be far better at creating the enabling conditions and cultures for innovation, schools need to take ultimate responsibility for their own ethos. Inevitably, this points to a significant leadership challenge at all levels. We need leadership which has authentic conviction about the potential for education as humanity's best hope; and which can both assemble and communicate a compelling case for change. We need leaders who understand that this is not a quest to converge on a single solution; leaders who have the political savvy to create the legitimacy for radical change, and who draw on international networks as a source of imaginative ideas rather than prefabricated policies.

Policymakers and other system leaders need to create platforms for collective agency amongst schools and teachers, incentivising them to use this agency to innovate in collaboration with others in a school community – including learners and parents, and also with the wider world of local communities, employers, and 'edupreneurs'. The aim must be to return teachers to the front and center of the innovation process, but within a context that challenges both systems and teachers to grasp how public education must change to enable learners and institutions to thrive in the new conditions which confront them.

We believe that this will require a move towards a new concept of *Creative Public Leadership.* In essence this positions the state as an authorising, facilitative and supportive platform for systemic innovation. To test our emergent thinking, we set out nine first steps to re-orient the role public system leaders might play.

1. Build the case for change

2. Desist from waves of centrally-driven short-term 'reforms'

3. Develop outward as well as upward accountability, to learners and localities

4. Create and protect genuine space for local curriculum designs

5. Prioritise innovations that transform approaches to assessing students

6. Place intentional, rigorous focus on the development of teachers' innovation capabilities, throughout their careers

7. Redirect some proportion of a jurisdiction's education spending to an explicit incubator program, tasked with radically innovating on behalf of the system as a whole

8. Build systems of collaborative peer learning to support the adaptive scaling of innovation

9. Put system entrepreneurship at the heart of system leadership

We offer these proposed first steps as suggestions for those frustrated with the rate of change, but who feel locked into a resilient 'system' seemingly impermeable to shift. Each one of them can be instanced by exemplars across the globe – few in numbers but increasingly influential. WISE creates the space for debate about the viability of our proposals – what resonates, what has been omitted, and how momentum can be built. A movement for radical innovation in publicly-funded education is overdue, and we need a road map. This report offers a sketch.

#1
INTRODUCTION

#1 INTRODUCTION

1. YOU ARE THE MINISTER

Imagine you have just been appointed as the new minister for education (choose your country, region or city – the world is yours). Your appointment was both unexpected – to others, who (correctly) hadn't associated this post with your interests – and underwhelming – to yourself, who had secretly hoped for something closer to the financial action.

Whatever is already in your in-tray, or whatever your own passions and prejudices will push to the top of your in-tray, building a school system with the capacity for systemic innovation is unlikely to figure high on your list of priorities. You might be facing urgent financing issues, declining standings in international education league tables, seemingly recalcitrant trade unions or university teacher educators.

At the same time, you will visit schools which, despite constraints congruent with many other schools, appear to be succeeding against the odds. You will hear about endless examples of successful education practices, in your own and other jurisdictions. You might wonder whether the answer to education excellence and equity lies simply in spreading and scaling best practise, whether by encouragement or prescription. Although some business leaders and opinion formers might urge you to think more broadly about the skills young people require for future workplaces and societies, this will be far outweighed by short term pressures to improve standards as currently defined.

So whilst you are unlikely to be anti-innovation (who is?), you are also likely to be aware of its potential risks, and ambivalent about the role of government in doing anything other than standing aside, partly to avoid implication in any failure.

In a world of short term expectations, how might the development of a more strategic approach to innovation fit into your lexicon of solutions to the perceived problems in your schools?

I think we can be more purposeful and intentional in creating a much more hospitable environment, employing innovation as our friend, our agency and our significant weapon to affect transformation.

–

Anthony Mackay,
Centre for Strategic Education

Imagine, instead, that you aren't the minister, but want desperately to influence her thinking. You might already have systemic influence beyond a single school. You could be a chief civil servant, in charge of a school district, teachers' union or subject association. Perhaps you are a head teacher or teacher, keen to achieve more for your community of teachers and learners, but feel trapped in the gap between the rhetoric of school autonomy, and the reality of ever-more constraining cultures of compliance. Perhaps you are an education entrepreneur, excited about the potential of your product or service, but frustrated about how the school system appears to militate against successful trialling, scaling and replication. Maybe you are a parent who can see her child's curiosity and engagement with learning slipping away through the endless, soulless repetition required when you are being 'taught to the test'. As a school chooser, voter and taxpayer, what might you do to help your education system develop the spirit, processes and systems to do things differently?

2. PURPOSE OF THIS REPORT

This report seeks to explore this question: How can school systems around the world create the conditions for successful innovation that transform outcomes for all learners? The question arises from our view that, if we are to improve performance overall, ensure equity, and develop and a wider set of outcomes, then serious, disciplined and radical innovation is required at all levels.

Whilst the role of government remains crucial, to achieve both equity and excellence, and to both raise and redefine achievement, we need to draw on resources from both within and beyond traditional public institutions. This presents challenges to governments and their agencies, who need increasingly to look beyond 'delivery' and begin to think about new roles for government in eco-systems of learning and innovation. Although both the RSA and the Innovation Unit have strong views about the purposes of education which are very much aligned with Charles Leadbeater's 2014 WISE research report, we are aware some of the language adopted by those seeking radical changes to the 'desirable outcomes' of learning can be jargon-filled and off-putting to those they need to convince.

As one school principal recently told us, "every time I hear the phrase 'twenty-first century skills' I close my ears and reach for my periodic table, my handwriting ledger and even my Bible". The rhetoric of 'education revolution' can close down the most important discussions about innovation before they have even begun, confine debates to the converted rather than the sceptical, and reassuring the confident rather than inspiring the constrained. We need to break through unhelpful divisions between 'progressives' and 'traditionalists' and make a compelling case for ways to achieve the kinds of outcomes all learners will need in the coming decades. The evidence is strong that existing systems and methods are not succeeding in this; and that is why innovation is essential. This matters because, as we shall argue, school systems which do not develop the innovative cultures, motivations and capacities of their leaders, educators and institutions are unlikely to see their change efforts have long-term, sustainable returns

Leadbeater argued powerfully for 'creative communities with a cause'.[1] This paper attempts to outline the 'system entrepreneurship' required to enable and catalyse such communities, giving them the best possible chance of success and scale. Our ultimate belief is that education systems can and should create deliberate platforms for innovation that are long-term focused, equity-centred, and teacher-powered. In doing this, leaders should remember and reinforce the fact that the process of learning should be a uniquely humanising experience, and that excellent teaching and learning is ultimately predicated on the power of human relationships. We therefore need to aspire towards a humanising innovation - "an active process of change guided by compassion and reference to shared value."[2]

Teachers worldwide are more aware that the schools model we have today is not capable of getting students to be more focused or engaged. If we don't innovate and experiment in education then things are going to get worse and worse.

-

Rafael Parente, *Aondê*

3. OUR STARTING ASSUMPTIONS

Our argument builds on six propositions, all contestable:[3]

1. That school system leaders' efforts need to be directed towards elevating the best values of public education: democratising, enabling opportunity and diminishing inequity, and aligning and empowering

learners and communities in new ways. Without such direction, the sum of our innovation efforts is likely to exacerbate rather than narrow achievement gaps.

2. That the 'mandate the good, unleash greatness' mantra of school reform needs challenging at all levels.[4] The journey from poor to good cannot simply be mandated; and the journey from good to great cannot be 'unleashed' without creating the conditions in which the (implied) freedom can be exercised purposefully and with impact. The creation of such conditions is the subject of this report.

3. That the increasingly dominant model of education reform around the world is in urgent need of evolution rather than entrenchment. Even those aspects of the New Public Management orthodoxy which have improved outcomes are having diminishing returns.

4. That it is wrong merely to await the tsunami of the technology revolution in its many, and unpredictable, forms; rather an intentional effort should be made to reshape the architecture of public investment in learning and encouraging the creation of eco-systems (of both providers and users) which are more open, inclusive and diverse, with new learning patterns.

5. That in this context *institutions* such as 'the school' can and should sustain a crucial role. Announcements of its death are not just premature but unwelcome. Similarly, the role of teachers should not be diminished; any evolution of their roles requires a re-establishment of their collective agency, and their deep engagement with innovation processes.

6. That ways need to be found to emancipate and enable the agency of learners, not just as consumers of technologies, but as makers, problem finders and solvers; and entitled, invested players in their own right.

In moving from these propositions to suggested action, we are in the foothills of developing a new conceptual framework – creative public leadership – the enactment of a more connected, and consequentially more flexible and agile system. This would require some fundamental structural and cultural shifts that allow for more coordinated and multi-actor innovation *with* the wider system rather isolated from it.

No school should be an island, either from other schools or from other people and organizations who can help transform learning.

Section 2 provides an analysis of a changing global context, and how school systems are performing and responding.

Section 3 offers a brief tour on the science of social and system innovation, to inform our thinking on innovation in education systems.

Section 4 gives thoughts on the current state of education innovation, at institutional and system level, outlining the barriers to progress.

Section 5 suggests some next steps, ready to be tested and refined by system entrepreneurs everywhere.

To support our work we carried out conversations with twenty education system leaders around the world and also undertook detailed desk research. We also tested our nine next steps through workshops at WISE 2015, and at the Global Education Leaders 2015 Conference in Auckland. This was supplemented by over 100 responses to an online survey. The focus of this report is on learners of primary and secondary age, although our arguments may resonate through early years, higher education and lifelong learning.

#2

A CHANGE IS GONNA COME, NOT SOON ENOUGH: THE CASE FOR INNOVATION IN EDUCATION

#2 A CHANGE IS GONNA COME, NOT SOON ENOUGH: THE CASE FOR INNOVATION IN EDUCATION

1. A RAPIDLY CHANGING CONTEXT

The sheer scale and complexity of the challenges that societies now face are forcing a shift in understanding about how change happens. Global challenges such as climate change, an ageing population, community cohesion, demographic shifts and deep inequality render simple interventions ineffective and demand more creative solutions. While national and local government continue to perform vital functions, businesses, the third sector and indeed each of us as citizens have a part to play too. More than ever before, society needs ways of galvanising these different actors to tackle social challenges.

International Schools expert George Walker has summarised six global challenges that will impact learning.[5]

	Challenge
Diversity	There are no longer neat lines between nationality, culture and ethnicity. Growing diversity has led to radical changes in our self-perceptions, leading both to growing levels of tolerance and integrations and to rising trends in national and religious extremism.
Complexity	Technology has vastly increased our capacity to communicate and share information. This has led to a proliferation of ideas and opinions from around the world.
Sustainability	Science is now unanimous (almost) in its support of anthropogenic climate change. We will be facing a situation in which governments and their societies will have to make do with less.

Inequality	The gap between those with and those without has widened. Beyond the moral implications of this, inequality is also inefficient. According to the OECD, had the gaps in inequality closed over the past 30 years, our GDP would be 8.5 percent higher and almost everybody in society would be better off.
Accessibility	Traditional hierarchies have broken down, opening up agency and people's perceived rights to access knowledge and information. Increasing longevity and rising individual and societal expectations are challenging the dominant 'learn first, work later, age quickly' paradigm.
Eastern-centricity	Economic and political influence is shifting eastwards, with economies rapidly gaining ground on their western counterparts. Their increasing eastern dominance is opening us to new values which are not based in the Enlightenment.

2. IMPLICATIONS FOR EDUCATION

Young people across the globe today face an uncertain future: economic instability, stubbornly poor social mobility, and the challenges of increasing population diversity and growth, climate change, and the whole raft of pressures that come from rapid globalisation. According to neuroscientist Jay Giedd, the way in which teenagers learn, communicate and entertain has evolved more in the last 15 years than in the previous 570 years. Today, children and teenagers have access to more information, opinions, and media from across the world than any generation before them.

In this context, school systems are under increasing scrutiny. As youth unemployment persists, technology advances and concerns about global sustainability increase, the challenge of developing more tailored and reflexive school systems is becoming increasingly pertinent.

By extension, debates about global issues, values and employment are becoming increasingly interchangeable with debate on the kind of broader education systems we need in the future. For example, how do the issues of resource depletion and climate change accord with national narratives of unlimited economic growth on which some education goals are based? If the utilisation of robotics in post-industrial countries suggests re-thinking policies around full (or even majority) employment, what are the implications for education?[6]

Dramatic, four-decade shifts in the global economy have put a premium on informational and interactive capabilities. The "ever-diminishing half-lives" of knowledge and skills means that capabilities needed in the future may not even be known at the time a person attends school.[7] For individuals, greater resilience and adaptability are needed to cope with volatile labor markets and diverse, less coherent, career paths; while businesses also emphasise the need for a more creative, rounded, self-motivated workforce. To ensure that their societies flourish, countries will need to redesign their education systems to support broader outcomes, promoting an openness to new ideas, ability to adapt and courage in the face of the unexpected.[8]

The rationale for a transformation in thinking about the purposes of education go well beyond the economic. Globally, many educators and some system leaders are rethinking how best to educate young people so that they acquire the knowledge, skills, attitudes, values and capabilities – often summed up in the term 'competences' – to live as active, productive, responsible and participative citizens in modern democratic societies. When in 1996 UNESCO produced a vision for twenty-first century education, it urged that the aims of universal schooling must include 'Learning to Live Together' and 'Learning to Be' (UNESCO, 1996). Since then, writers have shown how the speed of change and challenge – some of it existential – now require us to rethink our purpose and goals for publicly-funded mass education systems.[9] New goals now find more solid form in efforts to establish new metrics for universal education: the Learning Metrics task force seeks to support systems to track, along with aims such as literacy and numeracy, the extent to which students are developing to be 'Citizens of the World' and recognises social and emotional learning, and culture and the arts, as key learning domains (UNESCO/Brooking, 2013).[10]

Research is consistently adding further ballast to these arguments. Studies by Nobel Prize Winner Professor James Heckman, for instance, show that psychological and behavioural traits like conscientiousness, emotional self-regulation, and persistence are on a par with so-called 'cognitive' traits in influencing academic and labor market outcomes (Pearce et al, 2006). The latest labour market studies of contexts like the US find that the rewards for social skills are increasing.[11] This is something teachers tend to know intuitively – that pupils' broader development and academic progress tend to go hand in hand.

So how can schools meet these goals? Mass education systems, which emerged in the early nineteenth century in Europe, spread and underwent extension and considerable improvement throughout the twentieth century. They attracted increasing proportions of national GDP, and with

that closer state scrutiny and control. The earliest objectives of mass schooling, which centered upon creating workforces sufficiently literate (and, some would say, deferential) to service the western industrial revolution, gave way to broader, more individualistic aims: 'fulfilling each student's potential'. And from time to time, mass education systems become sharply and explicitly shaped to support national objectives – for example in China during the Cultural Revolution. Objectives for education systems today generally attempt to cover both societal needs and requirements, together with the perceived needs of individuals within those societies. The political discourse in most jurisdictions seeks to show how policy changes are in line with what that society needs (and can afford).[12]

The question of how schools can meet their role of preparing young people for the challenges of our fast-paced evolving societies has been a growing focus for teachers and policymakers across the world in the last decade. Educationalists globally are beginning to talk differently about the need for teaching which meets young people's needs, concerns and real-life challenges – and which is more engaging, and results in deeper learning. International experts like Michael Fullan and Michael Barber – former advocates of improving schooling in its existing terms, judged by traditional outcomes – now recognise the need to find ways for young people to learn in more challenging environments, which develop character, resilience and leadership as well as lead to academic results.[13]

3. REALITY HAS BEEN MORE CONSERVATIVE AND PROGRESS SLOWER

"... Are our education systems really geared to support learning, to foster social learning and to create learning societies? Or are we merely maintaining credentialism, systems of selecting, screening and signaling people?" Dirk Van Damme, Head of OECD/CERI[14]

The mantras of change, reform and innovation have become ubiquitous across education systems the world over. But while there are pockets of educational innovation that are beginning to rattle dominant discourses about conventional educational models, the stubborn roots of the 200-year-old schooling paradigm remain.

The structures that dictate the systems, processes and intended outcomes of the formal schooling system remain remarkably resilient. In the domain of organised tax-funded education, systems of schooling are for the most part in improvement mode: that is they take

for granted the implicit parameters and metrics which maintain the industrial model of schooling, for example:

- Front-loaded to age 16, or increasingly 19;
- Teacher-directed and driven;
- Largely building and classroom based;
- Age-determined grouping;
- Based on set, standardised curricula;
- Privileging specific academic subjects;
- Privileging certain modes of knowing;
- Assessed by standardised tests.

This is not to suggest that all of the above characteristics should be abandoned; rather it is to draw attention to an important distinction: that 'improvement' and 'change' are not the same as system innovation and transformation. The literature on this distinction is extensive.[15] Most improvement efforts take the parameters above as a given, and make incremental changes around them. For example, digital technology can be used as a really smart blackboard for the teacher, who continues to control everything within the classroom – rather than fundamentally changing the roles of learner and teacher.

4. AN IMPROVEMENT DRAMA, AN EQUITY CRISIS

"The surface is agitated and turbulent, while the ocean floor is calm and serene. Policy churns dramatically, creating the appearance of major changes while deep below the surface life goes on largely uninterrupted." Larry Cuban[16]

If, by sticking within its current tramlines, our education systems were succeeding against the rigid criteria they set themselves, then need for either change or transformation would be less urgent. However, the reality is more depressing. McKinsey's review of thirty years of education reform efforts around the world concluded that there had been 'lots of energy, little light'. A trebling of spending in most OECD countries between 1970 and 2000 has actually led

While people like us are thinking about the future of education in 20 years' time, teachers and policy makers are wrestling with the day to day problems and parents have the model of what learning looks like from 20 years ago. You have this 40-year gap that somehow you need to cross and communicate.

–

Mark Griffiths,
Pearson

Education is part political economy and so to change an education system you need to understand the political context and how to change the dominant hegemony.

–

Mo Adefeso-Olateju,

The Education Partnership Centre

to a stagnation or regression in outcomes. Whilst the dominant mode of school and system reform of the last 20 years has been that of school improvement, even its most prominent proponents have begun to acknowledge its limits. In the global north, school improvement continues to struggle with multiple pressures: learner dissatisfaction, disengagement or stress; growing costs (often in contexts of reduced public investment); frustrated workers; little (or often negative) impact on equity; and continued accusations of mismatch to societies' needs.[17]

The predicament of less established education systems is even more concerning. A recent study from the Brookings Institution[18] shows that without a fundamental rethinking of current approaches to education, it will take another 100 years for children in developing countries to reach the levels achieved in developed countries.

Even seeking to reproduce the old model will take a couple of generations assuming in any case that the outcomes of the existing paradigm were appropriately fit for purpose. As Brookings writes: "It is not important if the gap is 65 years for some measures or 126 for others: what is important is that it is real, it is big, and it is inexcusable."[19]

More worrying than the failure to meet the six Education for All goals by 2015 are the deep disparities behind these figures. Some countries, regions and population groups are lagging even further behind. As the Open Society Institute argues, "overall progress has actually resulted in a measure of greater inequity".[20] There are more fundamental reasons for this failure than any dearth of innovation – a shortage of resources and basic materials, huge class sizes, and above all poorly motivated teachers. However, based on this slow progress, the Education for All Monitoring Report has estimated a financing gap of $39 billion (USD) between 2015 and 2030, if all countries are to meet the new targets. Of course, this gap is particularly acute for countries with lower GDP, where it predicts that education spending would need to rise by 50 percent as a share of GDP before 2030.[21]

Within-country equity gaps should also trouble anyone who cares about inequality. Education and social reproduction are at a long standing impasse. Despite advances in levels

of attainment and access to higher education, studies across the world show us that social class inequalities remain vastly unchanged.[22] Growing differences in achievement related to socio-economic status and race or ethnicity are unacceptable in a world where we have an increasingly sophisticated understanding of what influences the learning capacities of young people. We know that it is possible for schools to eliminate these inequalities, and every system contains 'beautiful exceptions' that do, with a small number of jurisdictions achieving something closer to equity. But overall, we are moving in the other direction.

In the 1960s, Basil Bernstein famously wrote that "education cannot compensate for society". Whilst this is of course much-contested, it is clear that education's 'compensatory' challenge grows as global wealth inequalities grow within and between countries. There are growing inequalities in power, resources and opportunities between people in different social and economic positions; inequalities begin from birth and are manifest at every stage of education, exacerbated by growing disparities in parental spending on educational opportunities and resources for their children.[23] The gap in personal, cultural and financial resources is particularly stark during adolescence and early adulthood, in the face of polarising pathways and a precarious youth labor market.

5. WHY THE STAGNATION? "SO MUCH REFORM: SO LITTLE CHANGE" [24]

"Educational system leaders are good at producing development programmes which are frenetic and burdensome to practitioners, incomprehensible and disruptive to both parents and learners but ultimately leave the essentials of the scene completely unaltered." [25]
Graham Leicester

The current dominant model of education 'reform', a twenty-year New Public Management (NPM) paradigm, is acting as a barrier to the education system that learners need.[26] Existing systems are enormously wasteful – in terms of human capital, but also in terms of the continuing investment in failing programs. As Barber and Hill wrote last year: "Even the top-performing systems in the world have hit a performance ceiling." [27]

Despite little real evidence of progress from NPM, its influence continues to drive public service reform. Governments, pushed by their own ideologies or the ideologies of external funders, have increasingly pursued market-based, classic neo-liberal reforms – the 'market constellation' of competition, choice and high-stakes accountability to improve results.

I would hope before too long that the penny will drop that high level of school autonomy is not having an effect. Crucially what makes a difference is teacher capacity and professional autonomy which do not necessarily go with school autonomy.

–

Jim Knight,
TES Global

In terms of new public management this is known as 'steering, not rowing', although the reality feels very different on the frontline. Stephen Ball describes NPM as "not the abandonment by the state of its controls over public services, but the establishment of a new form of control… what we can call 'controlled decontrol', the use of devolution and autonomy as 'freedoms' set within the constraints and requirements of 'performance.'"[28] OECD data on successful school systems often refute the pillars of NPM – in particular, choice and competition do not appear to improve or equalise outcomes for learners (OECD, 2013c), and schools are often given the types of autonomy that do not drive improved outcomes. None of this appears to have decelerated the NPM momentum.

Moreover the structures by which policy is made and handed down to schools in most jurisdictions disregard the fact that they are dealing with complex systems. Accordingly, they focus on simplistic solutions: class size, school bureaucratic and financial autonomy, school choice, market forces, defined curricula, high stakes testing. Fundamentally, the cognitive frames of policy makers seem to be misaligned with the complexity of actually transforming learning.

These dominant orthodoxies of school reform have been exported to developing countries through funders and aid agencies. The ability of developing countries to successfully adopt the features of more westernised schooling paradigms is used as a criterion to receive aid. Consequently, researchers such as Pritchett (2013) show that in most developing countries policy design and implementation still focus primarily on inputs – on establishing the appearance of 'schooling' – rather than outputs, the evidence of increased learning. Countries in the global North have for some time been focused on outputs – albeit limited ones – in the form of standardised test scores. Yet, as Pritchett explains: "Copying the educational fads from rich countries is not going to work: pedagogical and educational problems of developed countries are entirely different than those of advanced countries."[29]

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Accordingly, they focus on simplistic solutions: class size, school bureaucratic and financial autonomy, school choice, market forces, defined curricula, high stakes testing. Fundamentally, the cognitive frames of policy makers seem to be misaligned with the complexity of actually transforming learning. Consequently, the questions policy makers ask, the problems they focus on, and the evidence they look for are not the best kinds of questions, problem-definitions and evidence to create serious improvement, let alone transformation.

The hegemony of the existing global benchmarking (supported by reports which purport to demonstrate the 'lessons' from successful countries) drives policy isomorphism: that is, in a state of uncertainty, to mimic what is perceived to be the policy direction of the majority. Isomorphism is driven by internal uncertainty, but also external influences often pinned to financial capital. Stephen Ball's analysis of global education policy argues that: "More and more states are losing the ability to control their education systems – something we can refer to as denationalization. Through networks of international organizations, corporations, NGOs and philanthropist organizations, policies are no longer bound by national borders."[30]

Without a guiding vision of the broader societal goals for learning, which politicians can articulate convincingly, the existing taken-for-granted frame of schooling remains unchallenged.

In jurisdictions where moves toward school autonomy have occurred, this has led to detachment from local communities. A more direct, quasi-contractual relationship with national government may have given the impression of autonomy, but Principals are often left only with bureaucratic autonomy – over staffing and budgets. They surrender curricular and, to some extent, pedagogical autonomy. The standardisation processes also leads to 'narrowing and shallowing': a narrow focus on core subjects and on those pupils on the borderline between externally-determined success and failure.

The 'iron triangle' of access, quality and efficiency has been a taken-for-granted feature of education reform. But what is 'quality'? A powerful influence on politicians today has been the increased prevalence of global benchmarking, principally through the prominence of PISA, in which 60 countries now take part. As Breakspear shows, scores on the PISA tests of 15-year-olds are now taken as simple proxies for the overall quality of education systems.[31] Politicians anxiously await the triennial results, claim credit for 'successes' and promise more reform to catch up with the leaders. The tests in question of course are based on a narrow set of indicators, squeezing out sustained focus on the important social

purposes of learning. The emphasis implicit in the PISA conception is a human capital theory of economic growth: skilled, literate workers with higher cognitive abilities are needed to ensure economic competitiveness. The primacy of this rhetoric entails that alternative visions – humanist, democratic, environmentally sustainable – are little articulated and under-developed. Without a guiding vision of the broader societal goals for learning, which politicians can articulate convincingly, the existing taken-for-granted frame of schooling remains unchallenged.

6. TEACHERS: THE SOLUTION BECOMES THE PROBLEM

We realised that teachers can do so much but the enabling environment also needs to be in place. We need to build parallel networks of officials within policy as well as networks of teachers.

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James Townsend,
STIR Education

Judyth Sachs' book on the activist teaching profession neatly outlined the contradictions of autonomy at the heart of much education reform. Decentralisation and devolution are the totems of New Public Management reforms. But for teachers the accountability and measurement systems entailed in these reforms put them at the bottom of a performativity food chain that reaches only up, towards various offices of principals, schools boards, local or national ministers and inspectors.

So, in addition to the narrowness of its vision for learning, the logic of the current reform model has a persistent flaw – it is at heart doubtful of the value of teacher professionalism, seeing it as a mask for producer capture by vested professional interests. Instead, it has created a form of 'managerial professionalism', driven by heavy scrutiny linked to rankable performance measures.

Systems do, of course, recognise the importance of 'teacher quality'. Nations around the world are placing a forensic focus on how to improve the everyday practices of teachers. Dylan Wiliam has written that: "There has been a shift from treating teachers as a commodity (i.e. regarding all teachers as equally good, so that what matters is getting enough teachers at a reasonable cost) to regarding teacher quality as a key element in educational policy."[32]

However, systems overall are far more skeptical about the concept of trusting teachers to improve their own quality.

Policy tries to change behaviour through top-down accountability measures, pay-related incentives and high-stakes testing and appraisal. This is creating a teacher identity which risks reducing the teacher's role to that of compliant technician, whose job is largely to implement protocols and carry out instructions.

The ever-increasing downwards pressure means that in many states too many teachers leave after just a few years, and too many of those who do stay fail to keep improving and rarely improve together as a cohesive community of practice, whether through within-school or within-subject communities.

Increased centralisation, combined with incentives for schools to compete, has reduced opportunities for the development of 'professional capital' – in particular, for teachers to work across schools to improve each other's practices.[33]

As Director of Research-Ed Tom Bennett has written: "The over emphasis of a top-down hierarchy based on saturation levels of prescriptivism has produced a burden that alienates many from the profession. Their opinion, their entire craft, is marginalised to the point of obsolescence. The teacher is no longer a professional, but a delivery system. In this atmosphere, their replacement – by untrained staff, by MOOCs, by anything – is not only possible, but inevitable." [34]

The concept of 'agency' is slippery, but we believe is crucial to any approach to creating innovative school systems. Biesta et al identify three domains of professional agency:

- Teachers' ability to shape learning and working conditions
- The development and enactment of policy - the operational statements of values that frame the contexts within which teachers work...
- Teachers' ability to develop their professional knowledge and professional learning[35]

The diffusion of existing practise will not be enough to deliver the significant improvements in learning outcomes that society, the economy and learners themselves demand.

Within all these domains, the idea of a collaborative approach to agency is crucial. This is not an argument for unaccountable, powerful professionals who 'know best' working in closed classrooms. Building on Andy Hargreaves' work on professional capital and on collective autonomy, we believe that teachers need:[36]

- To be 'horizontally accountable' – to their communities and to their professional peers;
- To be enabled to evolve their practice in ways which are research-informed and open to innovation;
- Increasingly to focus on issues of learner engagement and personalisation in the digital age – which have the potential to transform the respective roles of teachers and learners.

These changes would move the systems in a diametrically opposite direction to that which most have followed in recent years. The evidence is there that that direction has failed. Can we create a road map to pursue a new one?

7. CONCLUSION

There is a compelling case to create school systems that actively, and explicitly, create the conditions for successful innovations to grow and be taken to scale. The diffusion of existing practice will not be enough to deliver the significant improvements in learning outcomes that society, the economy and learners themselves demand. Too many current improvement strategies are producing diminishing returns.

As Michael Fullan argued in 2011:

"There is a choice and some countries have made it. Replace the juggernaut of wrong drivers with lead drivers that work.... Jettison blatant merit pay, reduce excessive testing, don't depend on teacher appraisal as a driver, and don't treat world-class standards as a panacea."[37]

There is also a stronger critique of the 'wrong drivers'. There are toxic by-products from an overly fervent top-down accountability culture, especially on the creative impetus that drives innovation. Rigid, narrow targets can more often

than not limit the reach of the agreed ambitions of a system and consequently constrain innovation to an agreed set of outcomes. The risk aversion culture that is common in high-stake, top-down accountability systems inherently stifles innovation.

As Graham Leicester argues:

"It is clear that in today's complex and fast-changing world an approach to school improvement based on directive central planning can do no more than ensure acceptable minimum standards... an unavoidable lesson from numerous attempts at educational reform worldwide is that natural conservatism, vested interests, the enduring infrastructure of schools, the gold standard of individual written examinations and even market forces all conspire to bolster the status quo in the face of transformational intentions."[38]

#3

SCIENCE AND SCALE: THE STATE OF SOCIAL AND SYSTEM INNOVATION

#3 SCIENCE AND SCALE: THE STATE OF SOCIAL AND SYSTEM INNOVATION

"We define innovation as a break from previous practice, occurring when different points of view or existing practices are framed, imagined, or combined in new ways. Innovation succeeds when it creates new pathways for solving entrenched social problems, resulting in lasting transformation of the systems that most affect vulnerable populations and leave stronger social relationships in their wake.... Often, innovation is an improvement on invention, not the invention itself. It's adaptable, adjustable, and applicable to new challenges.

One thing we've seen consistently is that the capacity for implementing new approaches in the field often cannot keep up with the pace of innovation methods in development. We believe that innovation must be just as much about capacity-building among organizations, communities, and individuals."

The Rockefeller Foundation[39]

1. THE EMERGENCE OF THE SCIENCE OF INNOVATION

Evidence on the effectiveness of planned, deliberate innovation is becoming more substantive and secure.

Although there is still a strong body of opposition which believes that innovation is best left unplanned and un-theorised, evidence on the effectiveness of planned, deliberate innovation is becoming more substantive and secure. As expert Clayton Christensen has argued: "Innovation simply isn't as unpredictable as many people think. There isn't a cookbook yet, but we're getting there."[40] The field of innovation in the public services is expanding fast, with new methodologies, disciplines and techniques. Not yet a science, perhaps, but certainly a more developed discipline than a decade ago.[41]

Innovation thinking has become an ostensibly permanent feature, or at least a buzzword of this age, not least because of its ability to add value and challenge market norms, but also because of its permeation into the public sphere. It is increasingly a key lens that public sector leaders look through when addressing the social issues of the day. In product and scientific innovation, the driving energy tends to derive from the profit motive, curiosity and a focus on problem solving. In the case of the public services, the rationale is more complex. [42]

In *Leading Public Sector Innovation*, Christian Bason demonstrates how a disciplined methodology, merging design thinking, ethnographic research and citizen involvement, can increase public sector organisations' ability to find innovative solutions to social problems. He highlights how disciplined innovation can help to "find the sweet spot between inspiration and execution; where inspiration thrives on openness, divergence, motivation and creativity, and execution is the art and practice of getting things done". [43]

Disciplined innovation is evolving to take different forms, some focused on structures that constrain and manage creativity to be more productive,[44] others on a more clear balance between evidence and creativity.[45] Regardless of which emphasis, disciplined innovation is growing in public sector policy and practice. Nonetheless, there remain some significant challenges, which we discuss below.

2. USER ENGAGEMENT IN INNOVATION

Consumer engagement has long been crucial to innovation in the private sector, with market research emerging as a highly sophisticated diagnostics tool.

In the public sector, Participatory Design, Community Centered Design, Co-design and Co-production are all becoming more mainstream and disciplined approaches.[46] What all of them have in common is an ethos and recognition that those who provide and experience services should have an equal say and role in how such services are designed and delivered.

Working with a broad group of agents to generate and test new ideas allows innovations to be based on real experiences and concrete demands. It ensures that innovations are both targeting the right social issues and harnessing all of the skills and assets on offer. That means engaging users themselves, involving user networks and organisations and building alliances between groups of professionals and groups of users. It also means nurturing collective agency amongst practitioners — providing them with the structural and cultural conditions to be creative, collaborative and consequently innovative themselves.

When practitioners face limiting structures and a constraining culture, or are themselves absent from the design and development processes, the innovations that emerge face daunting challenges in scaling up. Moreover if learners themselves – the ultimate users of the system – are excluded from these processes, a rich source of insight and opportunity is disregarded.

3. CHALLENGES OF SCALING UP

Many see the ability to scale innovations to be closely related to an organisation's capacity for continuous innovation (OCCI), that is its ability to manage the tension between growing developed innovations while ensuring the development of new ones into the future. One perspective is that achieving this balance involves scaling strategies that require incremental refinement routinisation and standardisation. [47]

Too much emphasis has been put on the supply side part of innovation, so in supporting entrepreneurs and R&D. But too little attention has been placed on the demand side - whether that's the consumer or the professional. At the moment there's a lot of push happening into markets whether in education or health without having intelligent demand.

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Axel Heitmueller,
Imperial College Health Partners

However, this linearity doesn't take into account how, in the public sector especially, the spread of innovations often dependent on more human and cultural factors, and requires organisational and behavioral change. Hence, scaling is not simply sequential from innovation to diffusion. It is a re-iterative, social process that is beyond the technical delivery models that many assume.

It is not simply a case of fidelity: replicating and adopting an innovation beyond its initial context. Rather, innovations need to be scaled with high-trust adaption in mind, allowing for a re-calibration, or contextualisation. This is a crucial step in the process, and adapters should be rewarded, recognised and supported, much like the initial innovators.

Such nuances require a more innovative approach to scaling itself. Contextualising requires a departure from the transactional nature in which leaders have traditionally sought to scale.

A more relational, and humanistic system thinking challenges the linearity model of OCCI and begs the question of whether public sector systems are flexible, nimble, inclusive and connected enough to reap the benefits from the innovations, at scale.

4. SYSTEMS THINKING IN INNOVATION

Much like the discrete disciplined innovation methodology, the science of system innovation is becoming increasingly advanced. Applying systems thinking – a more holistic approach – to innovation allows industry and sector leaders to consider the conditions by which innovation can be more

- systematic: continuous and procedural,[48] and
- systemic: interrelated to broader system structures and agents.[49]

To move beyond the linear innovation process, towards a more interactive perspective, we need to think of system innovation as "an interconnected set of innovations, where each influences the other, with innovation both in the parts of the system and in the ways in which they interconnect".[50]

This interconnectivity is what the foremost systems innovators recognise. Hence Sir Fazle Abed's[51] BRAC (now one of the largest NGOs in the world) understands the connection between establishing micro-fi

opportunities in villages to create enterprises which can provide employment for families, and establishing skills training as well as higher education opportunities to the graduates of their schools. Larry Rosenstock's High Tech High group has established a Graduate School of Education to create a pipeline for the kind of educators who can practice newly evolving future pedagogy. Thus to innovate at system/jurisdictional level requires the recognition of a wide set of interconnections.

There is high potential in connecting, aligning or joining up innovative projects and programs so that the whole is more than the sum of its parts.[52] However, the public sector has been notoriously poor at this, due to a number of structural and cultural barriers.

"Surveys of public sector innovation show that at least 50 percent of innovations cut across organizational boundaries. But for precisely that reason many of these innovations remain small scale and don't get taken up: they threaten too many vested interests and jar with the siloed structures which still predominate in the public sector."[53] A prime example is how the UK's National Health Service struggles to scale and diffuse innovations across interfaces such as specialties, secondary, primary and community care.[54]

In their effort to bring about consistency, leaders tend to create a passive and wholly technocratic 'delivery' identity for broader system agents: middle managers and front-line staff alike. "Leaders often use transactional levers typical of bureaucratic organizations to drive system change: accountability measures, resource investments such as technology and materials, and rules that mandate processes. These levers rarely work to drive authentic, sustainable change in complex learning organizations staffed by experienced professionals."[55]

These conditions suppress creativity and potential, and agents remain under-utilised and even deskilled, especially in the science of innovation. Furthermore, it isolates new players and unconventional system actors who have value to add.

What then are the enabling conditions in which systems support interconnected organisations and, more broadly, system actors to be culturally, as well as structurally, prepared for scale? "Systems methods are being used to rethink flows through public services and there is also interest in how governments can promote more 'emergent' bottom-up change, and how public systems can be more self-organized."[56] Leaders then can carve out what is non-negotiable, and where system agents can be permitted and encouraged to tinker, innovate and adapt

There is a major discontinuity between three communities; the community of educational innovators, the business community that creates ideas about new skills and the new demands, and the administrators of the education system - especially on a government level.

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Pavel Luksha,
RF Group

as part of a set of more horizontal capabilities. Consequently, the role of government morphs into one of stewardship; steering system innovation and providing a platform for creativity and collaboration within the broader eco-system, while ensuring a broadly ethical agenda.

This more facilitative approach opens up a space in which we can think of system leaders in a new light, rethinking their role within system innovation.

5. INTRODUCING THE 'SYSTEM ENTREPRENEUR'

New types of system leaders are emerging across the globe, displacing the more recognisable bureaucratic public managers and placing system innovation at the heart of their agendas.

They are leaders who are actively looking at how they can be more proactive in making a case for, and facilitating, change while simultaneously making a case for, and delivering, stability. They are ensuring a creative space for public sector innovations to emerge, and actively working to create the conditions in which they can thrive and grow further, at scale, on a systemic level. In South Korea, Seoul Mayor Park Won-Soon is integrating social innovation approaches into city government.[57] In the United States, President Barack Obama launched the Social Innovation Fund, which makes grants to intermediaries that then seek out and fund promising programs.[58] In Finland, the government's main advisory body on Science, Innovation and Research (SITRA) has recommended that innovativeness should be made a criterion for competitive bidding in public procurement.[59]

Each of these strategies recognises the collaborative power of system innovation, and is actively seeking to create the structural, as well as cultural, conditions in which innovations can flourish. This kind of strategy requires a new set of skills, attitudes and roles for public leaders and managers. Frances Westley has outlined this emergent type of public sector leader as 'system entrepreneurs'.

"System entrepreneurs are responsible for finding the opportunities to leverage innovative ideas for much greater system impact. The skills of the system entrepreneur are quite different from, but complementary to, those of the social entrepreneur. The system entrepreneur plays different roles at different points in the innovation cycle, but all of these roles are geared towards finding opportunities to connect an alternative approach to the resources of the dominant system. Opportunities occur most frequently when there has been some release of resources through political turnover, economic crisis, or cultural shift."[60]

From our conversations with experts, and research into the vast literature, we believe that the 'system entrepreneur' model could have significant traction within education systems. So we include this as an important proposition for action in section 5.

'System entrepreneurs' are a marked departure from the management orthodoxies that have dominated the public sector, most notably in the UK, US, New Zealand, Australia and Sweden, for the last two decades. This departure recognises the ostensive tensions, but not contradictions, between New Public Management and innovation. It challenges the cultural consequences of top-down reform models which have stifled innovation, whilst not jettisoning its more positive features.

'System entrepreneurs' are a marked departure from the management orthodoxies that have dominated the public sector...

#4

INNOVATION IN EDUCATION: COULD DO BETTER?

#4 INNOVATION IN EDUCATION: COULD DO BETTER?

"Whereas 'islands of innovation' may emerge within existing systems, the education system of the future will need to develop a systemic capacity to innovate... All schools and colleges will need to experiment with original approaches or become early adopters of cutting edge practice elsewhere, so that they can get better at responding to changing needs more quickly than ever before."

RSA/British Council, 2013[61]

1. EDUCATION IS DIFFERENT

Whilst the learning from broader theories and practices of social innovation outlined in section 3 has not yet been sufficiently applied to the education sector, education has its own specific contextual features. For example, while education is often compared to medicine, it is more comparable to public health – in other words, being 'uneducated' is a chronic rather than an acute condition. This means that, beyond the relatively simple issue of getting pupils in classrooms in front of teachers, most education problems worthy of innovation are classic 'wicked problems' – issues that are not only complex but also highly contested. Trying to fix one aspect of the problem will more often than not create another, unforeseen issue. Technical fixes are regularly found inadequate and unhelpful in challenges that lie on a systemic level, in dynamic, complex and fluid conditions. The social class and attainment gap is a classic example of such a 'wicked problem'. Many technical solutions have been proposed, implemented and consequently failed, often exacerbating the gap. A 'system

Most education problems worthy of innovation are classic 'wicked problems' – issues that are not only complex but also highly contested.

map' of all the factors that have a substantial impact on the gap uncovers the fundamental challenges that education systems have when incorporating and interacting with innovation. Beyond the evidence, we can identify three key philosophical aspects that make education different from other areas of public innovation.

First, the desired outcomes for learning remain eternally contested. Beyond the so-called basics of literacy and numeracy (and there are even fierce disagreements within these domains), there is no consensus about who or what should determine the purpose of schools. There is far more agreement, for instance, on health outcomes. In some countries arguments still continue about the value of educating girls at all. In others, many are questioning the desirable scope of government involvement in determining school curricula. The diversity of views can act as a catalyst and obstacle to innovation, at both initiation and scaling phase.

Second, there are fundamental ethical questions about the real-time involvement of learners in the evolution of next practise. Should students be 'guinea pigs' in planned innovation? This perspective disregards the ethical question of perpetuating a system which is manifestly failing large numbers of learners (and, therefore, society itself). In response, a growing number of parents and carers are indicating they would support a radical departure from existing methods, or are even creating change themselves by taking their children out of the public system or turning to home-schooling. The number of registered home schoolers in the US, steady for a long while, has doubled in the past fifteen years to at least 1.75 million, and continues to increase at a rate seven times faster than the regular school enrolment.[62] Yet simultaneously, the perceptions of some parents and carers – connected to concerns about the highly unstable labour market that their children will enter – often retreat to old, superficially reliable demands on schools. As the world changes, disagreements widen about how, and whether, school should follow suit.

Third, and above all, whatever the technological evangelists may predict, the process of learning in the deepest sense fundamentally involves the quality of human interactions and relationships. It cannot be the mere technical acquisition of a body of knowledge or set of skills. This is relevant also to the issues around scaling innovation, where the concept of 'high fidelity implementation' might be both undesirable and unrealistic in our schools and classrooms.

2. THERE IS PLENTY OF INNOVATION IN EDUCATION

It is a fallacy that innovation in education is rare. The OECD recently surveyed higher education graduates five years into employment to understand their perception of workplace innovation levels. Primary and secondary education scored close to average levels on all criteria (and interestingly are significantly higher scored compared to those in 'public administration').[63] Education systems across the globe are awash with discrete innovations that are changing the learning landscape permanently for many students. We need not look further than all the WISE Awards finalists to find proof.[64] Similarly, open source databases such as the Centre for Education Innovations,[65] InnoveEdu[66] and Edutopia provide a myriad of education innovation from across global and learning contexts. Within the publicly funded education systems around the world (and certainly beyond them) there are pockets of extraordinary innovators striving to create new forms of organised learning which genuinely address the challenges their societies and their learners face, and which recognise the immense, unprecedented speed of change. Such innovators are taking practical steps to build new practises and mobilise knowledge – from providing MOOCS, to creating new pedagogies, to publishing innovation guides.[67]

A burgeoning ed-tech industry envisages wholesale disruption through the explosion of cheaper, more powerful (and mobile) learning technologies placed directly in the hands of consumers. This would create the potential for horizontal rather than vertical learning structures (through learning networks) and subject schools to the process of 'disintermediation' which has characterised other industries and services such as travel and financial services. Whether it is software which helps schools, school administrators and the government to improve learning through the detailed analysis of academic data, or hardware like tablets that opens up access to online learning resources like Khan Academy,[68] the digital revolution is playing its part and will continue to do so.

There will always be pockets of individuals that are innovators, but is that enough? Will those individuals be heard?

–

Mervi Jansson, *Omnia*

Technology is far from the only instigator of education innovation, however. Re-thinking and re-imagining the place in which learning occurs and how this impacts learning outcomes is also generating exciting and innovative ideas for learning. For example, the Al Bairaq education programme places, trains and mentors secondary students in hands-on scientific activities and practice at Qatar University as a way to challenge the low interest in science and maths during high school.[69] Similarly, Big Picture Learning connects students with real-world, personalised learning by creating and maintaining innovative, personalised learning environments that ensure students spend at least two days per week working on personal projects or completing internships beyond the school gates.[70]

The OECD's work on innovative learning environments identified six particular domains of school and classroom-based activity: [71]

1. Regrouping educators and teachers;

2. Regrouping learners;

3. Rescheduling learning;

4. Widening pedagogical repertoires and mixes of pedagogies;

5. Collaborative planning, orchestration and professional development (authentic professional learning communities);

6. Inquiry learning.

This is by no means an exhaustive list of changes which are possible and powerful (in particular the empowering utilisation of digital technologies, real-life learning, and learner agency and choice are not fully explored), but it is nonetheless a good starting point. Many examples are to be found of schools working with others across all these domains. The Deeper Learning Network in the US is a prime example, where more than 500 schools in 41 states – including the likes of Envision Schools, Expeditionary Learning schools and Edvision schools are creating a footprint of innovative teaching and learning practices.[72] Globally, the Ashoka Changemaker Schools network is supporting schools and learners to address social challenges in their communities.[73] Immersive learning is also emerging as a prevalent innovative pedagogy. Wooranna Park Primary School in Victoria, Australia adopts an autonomous learning method: students create their own curriculum dedicated to their personal passions[74]. Expertly scaffolded, the results are outstanding. The physical space is considered part of the pedagogical process and for this reason is both fun and integrated. School 21 in England is developing similar

approaches, with a focus on speaking and communication as a key to student success.[75]

In spite of the volume of activity, however, we can identify three weaknesses in the way that innovation is emerging across education systems.

Equity-light

Kevan Collins, Chief Executive of the Education Endowment Foundation in the UK, has consistently argued that any interventions which do not explicitly aim for equity normally do the opposite – increase achievement gaps. Whilst we know that high performing systems (as defined by PISA) can move towards greater excellence and equity simultaneously, this is not true of individual innovations. The case for equity and the role of innovation remains vastly underdeveloped in its articulation, and too many education innovators see equity as an afterthought, to be considered during the replication process, rather than central to their efforts.

This is reinforced by the 'mandate to do good, unleash excellence' mantra. Struggling schools, whose intake will usually include poorer students, are often pressured to use more fixed 'tried and tested' teaching methods. According to the OECD, teachers in low performing schools are twice as likely to perceive a lack of autonomy as teachers in outstanding schools.[76] If innovation is simply considered a luxury for 'better off' schools who are successful enough to 'risk' innovation, conversations about innovation and its benefits may elude those who could benefit the most. The need for space to reflect and innovate in order to adopt, and adapt new contextual educational models, is arguably more crucial for countries in the global south. Carrying the heavy burden of a creaking educational system denies the more innovative approaches developing countries may need to adopt to reflect their educational context, and change cultures and build teacher capacity through approaches suitable for that context.

We have the theories of what kind of learning works, but most of the ideas go to the elite schools in Latin America not to the poorest of the poor.

–

Vicky Colbert,
Fundación Escuela Nueva

Teacher-light

Despite countless examples of teachers taking on the innovation challenge, it is not surprising that in the era of high stakes prescription and measurement the overall role of teachers in innovation processes appears limited and devalued. Throughout the world, we risk creating a technocratic teacher identity, which reduces the teacher's role to that of compliant technician, whose job is largely to implement protocols and carry out instructions.

According to the OECD's TALIS survey, three-quarters of teachers feel that they would receive no recognition for being more innovative.[77] Too many teachers leave after just a few years, and, as Dylan Wiliam has shown, too many of those who do stay fail to keep improving and rarely improve together as a cohesive community of practice, whether through within-school or within-subject communities.[78] Faced with a generation of young people who are more ambitious, entrepreneurial and community minded, but also expect their future workplace to offer them opportunities to vent their creativity, this may also mean that more developed nations will continue to face shortages of teachers whenever their economies grow again. As the OECD argued: "Making teaching an attractive profession... requires teacher education that helps teachers to become innovators and researchers in education, not just deliverers of the curriculum."[79]

All of these factors do not create a climate for confident innovative practise. There is a massive potential to use teachers' initiative and growing confidence in the profession to adopt innovative approaches to their teaching. Some systems and many individual schools are moving in the right direction, paying particular attention to the power of collaborative professional learning, but it is rare to find the systematic involvement of teachers in education innovation. One important exception is British Columbia's 'network of inquiry' model which is predicated upon professional learning approaches that are "sustained and curiosity-driven".[80] Another is the 'non-positional teacher leadership' program which ran across 15 countries, and is currently being trialed in Palestine and Egypt.[81] Ontario and Singapore have also developed system-wide approaches to enabling teacher-led innovation.

Education International's 2011 survey revealed a significant gap between the value teachers placed on their agency and self-efficacy, and the extent to which the system they worked in offered them opportunities to exercise leadership, influence policy, shape professional practice, and build professional knowledge. One striking aspect of the survey

was the lack of attention teachers gave to the question on 'knowledge building' – or the business of 'capturing, creating, distilling, sharing and using know-how'.[82] This simply did not appear to be a priority for teachers around the world. This is a systemic and cultural challenge, and possibly reveals the types of people we are attracting to teaching, and the way in which we are developing and training them.

Evidence-light

Michael Barber takes the view that before the era of 'deliverology' and central standardisation, too many school and teacher decisions were based on "uninformed professional judgment".[83] While this is too simplistic – there has been a long tradition of 'warranted practise' amongst teachers using evidence to justify their decisions – it is true that, then and now, too many innovations have failed to develop a systematic understanding of the impact they are having on outcomes. Evaluations have tended to be far too success and advocacy-focused. Hypotheses about change have not been 'good enough to be wrong', so innovations have been doomed to appear successful. In short, schools and systems approaches to innovation have not been sufficiently disciplined.

The more your pedagogies and practises break with existing conventions around both means and ends, the greater the need for a good understanding of the evidence base behind those conventions.

Whilst this is true across all innovations, those innovations which are attempting to move beyond traditionally measured learning outcomes appear particularly prone to poor quality relationships with evidence. They have a built-in disadvantage in that systems have generally failed to reach a consensus about how to define and assess outcomes such as creativity, resilience and empathy. However, the more your pedagogies and practises break with existing conventions around both means and ends, the greater the need for a good understanding of the evidence base behind those conventions. Overall, innovation in assessment processes has not kept pace with innovation in delivery processes. This is a significant gap in our education system's innovative capacity, and provides a constant brake on any efforts at wider transformation. More rigorous, systematic approaches to understanding the impact of education interventions are emerging, although they are generally tethered to more orthodox learning outcomes.

Replication-light

While pockets of innovative educational practice continue to inspire and encourage others to embed innovative change into their practise, there are problems with taking innovation to scale. When a system is predicated on a top down and limiting structure, which is further reinforced by a risk averse culture that inhibits rather than incentivises innovation, such innovative practice is likely to remain at the margins. There is no scaling handbook that allows for a sequential replication process. As mentioned in section 3.3, the assumption that systematic and systemic innovations are linear and procedural, rather than iterative and relational, is unhelpful. There is no place where this is clearer than in education, where relationships are a cornerstone of practise and play a fundamental role in determining outcomes. But as long as school leaders and teachers are neglected as agents rather than victims of innovation, there is limited scope for spread and diffusion. Unless practitioners are put at the center of the innovation process, and are invested in as innovators in their own right, the cultural shifts that are required in scaling innovations that rely on relationships and ethos just as much as processes and functions, will fail to materialise.

Thus, to realise the transformative potential of systemic innovation, it is paramount that innovation capability is embedded in schools to allow for contextual adaptations of innovations that have a strong evidence base, as well as an in-house ability to innovate, incubate and scale their own creative, collaborative ideas.[84]

Transformation-light

It may be inevitable, but when it comes to innovation in education, the incremental and piecemeal is overpowering the game-changing and revolutionary. The most radical education innovators are doing so in guerilla fashion, at the margins. The immense resources of states are still largely locked down into a model predicated on the values and assumptions of a previous age. WISE Prize for Education Laureates such as Sir Fazle Abed and Vicki Colbert work independently as social entrepreneurs outside 'the system', first creating innovative practise and modeling new types of institutions, then working to take such exemplar models to greater scale.[85] Their work runs parallel with the systems run by states. Partly this is because of the risk-averseness of political actors in this field who feel bound to repeat the narratives of 'success' and claim credit. Partly, until recently, the depth of the gap between what is needed and what exists has not been fully

appreciated. Consequently, the enabling conditions for fostering transformational innovation have not been put in place.

While schools systems may be increasingly amenable to the language of innovation and it may appear that, in many, systems autonomy for schools is on the increase. At the rim of the wheel schools perceive an increasingly top down performance regime. This more 'centralised decentralisation' leads to schools and teachers becoming increasingly shackled to traditional means of school improvement and results and to less innovation.

3. IMPLICATIONS

The Global Education Futures Forum has predicted that *"The coming decades will see an era of the most radical changes in education since the appearance of national education systems. And the source of these changes will not be in the educational system itself, but rather it will be driven primarily by industries: digital technologies, healthcare and finance."*[86]

It may also be driven, of course, by a more direct role for the private sector in education delivery, either on behalf of, or instead of, the public sector. Many experts we interviewed suggested that the most impactful innovations are often taking places in schools whose governance has reduced or removed government involvement, or through enterprises which have bypassed schools. Emerging economies have experienced the rapid emergence of a low-cost private school market. Omega[87] in Ghana, APEC[88] in the Philippines and Bridge International Academies[89] in Kenya and Uganda, are amongst just a few more recognisable names in a sea of growing school chains seeking to fill the void left by what they perceive as ineffective public schools systems. Levels of innovative practise within these chains are often exaggerated (whilst innovation in public schools can be under-appreciated) but as a growing part of the education fabric, new school providers undoubtedly have the potential for positive disruption.

I think there are very important things happening in isolation. People are willing to do things differently if they feel like they are not alone. If they are stimulated and have even basic necessary resources, they will do something different.

–

Rafeal Parente,
Aondê

It is tempting to take a fatalistic approach to these types of change. Such futurology may or may not come to pass, and schools and public education may or may not survive in anything like their current form. However, we believe that how public education leaders and institutions interact with these trends of change is fundamental to the ongoing challenge of equity within education systems. Put simply, we believe that leaving transformation to market forces carries significant risks. The task for jurisdictions, we believe, is to enable ecosystems of innovation involving a diverse range of players (including schools and practitioners) conditioned by the values of equity and democracy.

This implies stewardship rather than control, mediating the processes of disintermediation that can encourage equity as well as democratic legitimacy. Governments would shift from deliverers and excessive controllers to facilitators of the system – guardians of the collective agenda but collaborative and creative in approach. Ecosystems (rather than the top-down concept of 'system') imply collaborative, meaningful and horizontal networks including a wider, more diverse range of actors and new players. The consequence of this is a long-term agenda of enrolling, including and enabling other players with an interest in learning; in the work of schools, and incorporating other learning modalities in a much more central way – in short, becoming 'open'.[90] Government and its agencies would take a stewardship role as enablers and brokers, rather than providers and regulators. This empowers system actors to be innovative in a meaningful, collaborative and creative manner.

4. EDUCATION AND SYSTEM INNOVATION

"Whole-system reform alone will not be enough. We need to find ways to integrate into the system a capacity to innovate continuously. Unfortunately, much of the education reform debate in recent decades has set up whole-system reform and innovation in opposition to each other. In fact, the two can and must go together. The key challenge is how to create structures and relationships within systems where information and ideas flow in all directions." Massachusetts Education Business Alliance, 2014[91]

In their illuminating study of the transformation of complex systems Mulgan and Leadbeater show how, across a wide variety of systemic transformations including, amongst others, the introduction of a new Health Service, postal systems, containerisation, electrification, sustainable energy systems, and more, at least some of the following elements are in play:

1. New ideas, concepts, paradigms;

2. Coalitions for change;

3. Development and diffusion of technology;

4. New skills, sometimes even new professions;

5. Agencies playing a role in the development of the new;

6. New laws and regulations;

7. Changed market metrics or measurement tools;

8. Changed power relationships.

Although there is clearly a diverse range of positions across countries, it is nonetheless useful to consider how public education systems fare against these criteria.

New ideas, concepts and paradigms

We have a multitude not only of critiques and powerful new ideas, but also of concrete exemplars at the institutional level. We have conceptions of a new paradigm even if there is no exemplar system which has fully realised it.[92] We have numerous examples of sub-systems and institutional models within the developed systems. Diffusing and spreading these exemplars into complete systems is the challenge. The most open space is in the developing world where the promising new models are evolving. It may well be that the leapfroggers in Brazil and across Africa may be the creators of the systems of the future.

The greatest paradigm shift occurring at the moment is in delivery models. Across the world, the traditional 'state as purchaser and provider' model has fragmented and diversified. More outward models of schooling, often supported by civil society and businesses, offer possibilities for new approaches to teaching, learning and school organisation that could spawn successful, replicable practices. A decentralised education system can enable both schools and new school providers to innovate and diversify their offering – where this is not stifled by accountability systems and dominant management paradigms that value conformity and compliance.

Coalitions for Change

In Nigeria we are beginning to see the stirring of a coalition for change. There is a sense of value, partnerships and developing multi-sector approaches to solving challenges in education and a broader sense of skills and development.

–

Mo Adefeso-Olateju,

The Education Partnership Centre

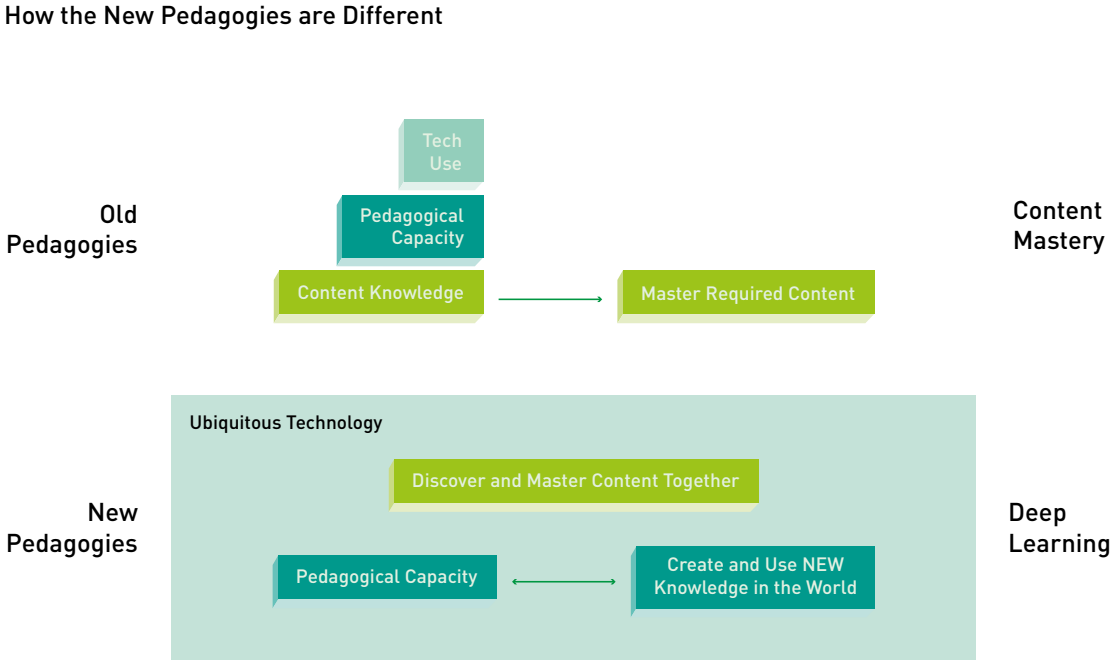
Alliances appear to be emerging from unlikely sources. The most successful companies in the world are amongst the most vocal critics of the existing schooling models. Moreover, in the philanthropic world large national and international players are focused on promoting innovation in systems; WISE and other global gatherings are starting to create more fertile grounds for experimentation within systems.

What is needed are strong coalitions at local system level, within jurisdictions. These will be most effective if they include 'the demand side': learners, families, communities. And these coalitions must be not just about advocacy and critique. Rather they are about constructing a dense eco-system of opportunities for learning, provided in many different settings, and with new providers and new players. For example, in Kuopio (in Finland) the entire cultural and creative resources of the city are involved in creating 'cultural treks' for all learners throughout their schooling years, providing different forms of learning in a wide variety of settings. Eco-systems of learning need to replace the school-as-learning-silo. Coalitions are the route to achieve this, and emergent examples can be seen across the world.

Development and diffusion of technology

There is no doubt that technologies offer untapped potential, both to deliver more traditional outcomes more efficiently (leaving space for teaching a broader set of outcomes), and to offer tools that support these outcomes. Despite the predictions of technology as a game-changer, as yet, there is little evidence to suggest that the potential impact of e-technologies is being realised. There is a growing awareness that the creative potential of new technologies can only be achieved through an application of new pedagogies (see Figure 1). The 'teacher as activator' (or what the RSA has described as 'mentor at the centre') is a direct counter to any notion of 'disintermediation' of the teacher's role.

Figure 1: How the New Pedagogies are Different[93]



As the channels to knowledge and skills become more open, as a vast array of educational resources and options become more widely available, it will become harder for prescriptive approaches to pedagogies to survive. At the same time, educators will increasingly have at their disposal powerful new tools to design more personalised approaches which previously were but fantasy in mass systems. The emergence of big data, predictive and analytical techniques similarly promise disruptive innovation on a large scale. Whilst these remain beyond the reach of most teachers, that is likely to change fast in the coming decade. The entry of technology start-ups as well as major corporates into the space is already a dynamic reality.

Mobile technologies in developing systems raise questions about the need for building-based approaches (as they did for the banks). In developing contexts where building schools is a financial strain, mobile technologies create the possibility to circumvent that need. Even where schools are available, for adolescents, where the custodial function of school is less of a factor, it may be preferable to locate mobile learning in adult spaces rather than schools, where students can develop important social skills through daily interactions.

New skills, sometimes even new professions

Teachers and leaders are all too often ill-equipped to be effective school and classroom innovators, devoid of how to approach disciplined innovation and utilise data and evidence for that end.

Innovative leaders have recognised the need to create a new pipeline of educators skilled in the development and practice of new pedagogies.[94] Definitions of the new skillsets are emerging. At the same time, modifications in the conventional role of 'teacher' are evolving: for instance, as learning designers. Moreover, new roles are emerging such as internship coordinators, project work facilitators, game-based learning teaching faculty, and blended learning program directors. The problem remains the deadening grip of many monopoly providers of initial teacher training and the patchy quality and availability of new forms of professional learning and development. One such form is the learning of innovation capability itself. Teachers and leaders are all too often ill-equipped to be effective school and classroom innovators, devoid of how to approach disciplined innovation and utilise data and evidence for that end. As the OECD has argued: "Despite the calls for more creative and innovative teachers, neither are being made priorities in the current systems of teacher appraisal.[95]" This disconnect between the policy discourse and the reported perceptions of teachers suggests that we need to do better to align our expectations for what constitutes excellent teaching and what is rewarded by the system.[96]

Agencies playing a role in the development of the new

There is now no shortage of innovation agencies in the private and not-for-profit sector. In addition, angel investors and philanthropic capital are increasingly available to fund promising start-ups and initiatives. There is, though, a lack of agencies funded by jurisdictions themselves, which are not wholly focused on an improvement agenda. Plenty of agencies within government have the title 'innovation' somewhere in their remit. But they rarely venture beyond incremental improvement. A major exception would be the NYC iZone,[97] which took on the 'incubator' role for the New York system. Similar initiatives are planned in Brazil[98] and in South Africa. In England, the Creative Partnerships

programme's innovation efforts focused on creativity, also aimed for school transformation, redefining as well as raising achievement, is another example.

Systems also suffer from unsophisticated partnerships between agencies and formal institutions. For instance, leaders have yet to fully capitalise on partnerships with the huge and welcome growth in the number of social enterprises, working at micro and macro levels, within and beyond schools, plugging gaps in provision and creating new services to meet new needs. Alongside large national and global players, from Teach for All to Pratham to Escuela Nueva, are a myriad of smaller social actors, most of which are partly or wholly reliant on public funding to remain viable. Schools in some places, especially in cities, are often faced with an increasingly complex and bewildering 'market' of offers from social enterprises, often competing for the time of similar students around overlapping issues. The formal system is failing to create the time, space and resource opportunities for schools to utilise, and work alongside, these partners, for instance by creating easily navigated directories of possibilities and opportunities. Many enterprises, often frustrated by the compliant and time-pressured cultures of schools, position themselves as compensating for schools apparent lack of innovative capabilities, rather than seeking to harness and build these capacities. There is a distinct lack of curation of these individual efforts, which in turn diminishes their collective potential and contributes to widening gaps in opportunity and achievement.The final three elements are those where, arguably, there is least sign of progress across education systems. These three are, of course, strongly linked, but can be taken in turn.

New laws and regulations

Most regulatory systems have moved towards higher levels of prescription and high-stakes accountability, both of which are anathema to innovation.

There are, of course, exceptions. Finland in particular is known for its high-trust high-devolution system, and simultaneously appears to have an organic capacity to innovate. The OECD studied 125 innovative learning environments across 20 countries. Of those submitted, the greatest proportion came from Finland. In every country, the regulatory weight falls disproportionately on lower performing schools, that tend to be in more economically challenging areas. Of course, schools with poor outcomes need to take simple, well-evidenced measures to get the basics right, but too much command and control can permanently reduce those institutions' capacities for innovation. And in places

with significant socio-economic challenges which, for instance, have an adverse effect on student motivation and engagement, so-called 'tried and trusted' methods might be inappropriate or counter-productive.

Innovation can only be fostered and maintained in a school environment that is supportive and collaborative. If there is no culture of innovation and no support to facilitate networks for innovative action, it's very unlikely that a school would embark on meaningful change. A well-known barrier to systemic innovation is a culture of risk aversion. There are many sectors that are notoriously poor at building into a system rewards for those who take responsible, managed risks. Without this, risking innovation is all too often seen to have very little pay off, both personally, professionally or on a system-level.

Changed market metrics or measurement tools

Assessment has become increasingly detached from its original purpose of informing current and future learning. Whilst there is clearly a need for some standardised, comparable approaches to assessment, that enable colleges, universities and employers to make wise and fair recruitment decisions, there is a growing acknowledgement that the current metrics – high-stakes standardised assessment systems – are inadequate to some of the tasks that a quality twenty-first century system requires.[99] They breed cultures of compliance – risk-free teaching to the test – and are a drain on the innovative capacities of schools and students alike.[100] Whilst much work is underway in this area, to measure different outcomes in different ways, this has been slow in coming, and achieving any levels of consensus has been difficult.[101] For as long as the only metric of educational success (whether for an individual or a system) is narrow assessments (which do not capture key dimensions of broader development) then all deep learning is held back.[102]

Changed power relationships

What might 'changed power relationships' look like in education systems? Some jurisdictions have thought that by enabling 'parental choice' of schools (to the degree that this is ever possible) 'standards' would be driven up through the mechanism of market forces. For sure, restricting families using public services to being grateful recipients of whatever it is they get is no route to a transformed system. However the evidence from other system transformation efforts[103] (especially

health) is that where users of services are brought more authentically into the process of designing how the system operates, the outcome is positive, and occasionally transformational. Thus, engaging students in designing optimal learning experiences with them should be a no-brainer. Unfortunately, until quite recently, it was not understood how to do this well. It should be stressed that none of this entails any retreat from rigor or 'quality'. Rather the reverse.

Similarly, the role of practitioners in system transformation is increasingly recognised. As mentioned previously, education is a sector particularly dependent on relationships and cultures, and for this reason practitioners' agency – their real sense of self-efficacy and capacity to act, not just their autonomy – their supposed freedoms, must be re-established and nurtured. Within the ecosystem framework outlined previously, a collective agency is paramount, not just between teachers but also between schools. How schools and teachers interact collectively with the broader education landscape will determine the impact and equity of any systemic approach to innovation.

If you want to innovate within the system, whether you are a teacher or local official, it is a very risky thing to do, especially if you are an individual who steps forward and says you want to do things differently.

–

James Townsend,
STIR Education

5. CONCLUSION

This analysis draws attention to the inadequacies of many education systems in offering hospitable, authorising and inductive environments for widespread and scaled innovation. All too often systems are predicated on the illusion of individual organisations' autonomy, at the expense of school and teacher agency to innovate and collaborate. This situation is often veiled by endless system reform agendas that leave no space for genuinely transformative possibilities to grow. The fact that many of the discrete education innovations discussed above remain at systems' margins and still only represent pockets of discrete innovation is testament to this.

For education systems to harness the potential of systemic innovation there must be a meaningful push for an equity-focused strategy, placing practitioners at the center of a research and evidence-based profession. System leaders need to support schools to think more often, more deeply and more radically about their mission, and the

System leaders need to support schools to think more often, more deeply and more radically about their mission, and the way their organisational form contributes to and inhibits that mission.

way their organisational form contributes to and inhibits that mission.

We need schools to be intelligent communities that see themselves as part of other communities. If we want schools to possess and teach the capacity to innovate, they will need the capacity to reflect – within their own institution, and with other schools. Whilst systems can be far better at creating the enabling conditions and cultures for innovation, schools need to take ultimate responsibility for their own ethos. Inevitably, this points to a significant leadership challenge.

#5

CREATIVE PUBLIC LEADERSHIP: SOME FIRST STEPS

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"There is no simple set of instructions on how to proceed... It is a way of going about things, and it demands the courage to breathe moral and spiritual motivation into everything, to seek the human dimension in all things. Science, technology, expertise, and so-called pro-fessionalism are not enough. Something more is necessary. For the sake of simplicity, it might be called spirit. Or feeling. Or conscience."[104]

Vaclav Havel

The current methods of education reform are not delivering the kinds of learners, teachers, leaders and institutions we need. To move further, faster, we believe that education systems can and should intentionally create platforms for innovation that are long term-focused, equity-centered, teacher-powered, and humanising.

Policymakers and other system leaders need to create platforms for collective agency amongst schools and teachers, incentivising them to use this agency to innovate in collaboration with others in a school community – including learners and parents, and also with the wider world of local communities, employers, and 'edupreneurs'. The aim must be to return teachers to the front and center of the innovation process, but within a context that challenges both systems and teachers to grasp how public education must change to enable learners and institutions to make their way in the new conditions which confront them.

Policymakers and other system leaders need to create platforms for collective agency amongst schools and teachers, incentivising them to use this agency to innovate in collaboration with others in a school community...

We believe that this will require a move towards a new concept of Creative Public Leadership. In essence this positions the state as an authorising, facilitative and supportive platform for systemic innovation.

How might it be possible for the 'beautiful exceptions' to increasingly see themselves as partners with others, as members of local learning systems, and much more deliberative and intentional about building collective capacity/social capital. We believe that this will require a move towards a new concept of Creative Public Leadership. In essence this positions the state as an authorising, facilitative and supportive platform for systemic innovation. To test our emergent thinking, we set out below some first steps to re-orient the role public system leaders might play. These steps are designed both to be practical – stimuli for reflection and action – and non-specific, thus usable by any system leader, whether inside or outside national governments. Although each step can be considered in isolation, they are interrelated, and designed to complement each other.

1. BUILD THE CASE FOR CHANGE

Across public policy, one factor is seminal to achieving systemic change: there needs to be a powerful case for change if the necessary energy and investment are to be made and the perceived risks to be faced. This is true whether one is looking at air traffic control systems, shifting to digital 'open governance', transforming antenatal care, eradicating malaria – or a host of other system shifts, because the risk entailed in shift must be outweighed by the urgency and seriousness of the problem faced.

A powerful case for change seizes the imagination, the heart and the head. It provides compelling evidence which cannot be ignored; but it also works at the level of experience – it brings with it a sense of recognition. A contextual, powerful case for change is essential to create debate, galvanise action, and marshal resources in a direction for real transformation (as distinct from incremental improvement). Without it, 'successful' global north systems remain complacent in their advantage and past achievements, and the global south will remain victims of old orthodoxies, rather than agents of their own destinies. The case for change needs to relate to a system's existing fundamental objectives, but also by exploring current realities and future trends, can point towards new objectives. If the current reality is that students are

disengaged and bored, even if test scores are still inching up, a jurisdiction may start to think hard about whether it has set the right goals for the system. Building a case for change upon specific, local considerations leads to a policy trajectory which would look very different to that of mimicking 'successful' countries' systems.

The case needs to be evidence and data informed; it should include a picture of a system in terms of demography, finances, and technological capacity, but also insights into the lived experience of people currently using and working within it. A powerful case for change will focus not just on the realities of the present, but also upon what is known about our foreseeable future.

2. DESIST FROM WAVES OF CENTRALLY-DRIVEN SHORT-TERM 'REFORMS'

Whilst a compelling case for change seems to call for urgent change, paradoxically there is a need for system leaders to ease the endless stream of reform initiatives. Most education systems around the world suffer from frenetic change forces, often directed by the short-term whims of politicians. Indeed, a common and often unrecognised feature of successful education systems around the world, from Finland to Korea, has been an ability to think and act long term – devise an education strategy and stick to it. This is also apparent at school level. Successful schools, whether more traditional or more progressive in their approach, have at their core a visionary but stable ethos that withstands educational trends or ministerial vagaries.

Teachers often appear resistant to change. More often, they are resistant to change where they lack confidence that the change will stick. Why adopt new practises, let alone spend valuable time adapting or innovating, when another policy change might render your work redundant?

As the UK's Confederation of British Industry (CBI) argued in 2014: "Over the years, a patchwork of reforms [in England] has confused schools, and encouraged micromanagement and a tick-box approach that has alienated teachers.... We call for a much clearer and broader statement of intended achievement for our school systems.... The statement should be long-term, stable and widely backed by stakeholders, including political parties." [105]

Of course, this is fundamentally a political issue. System leaders need to argue for the wisdom of resisting the political temptation to drive and control change, and to micro-manage (even whilst pretending to

devolve power). A stable educational climate, ready to be informed by new insights and inspirations rather than perform a data-driven dance of PISA panic, can be a bedrock upon which successful innovation can take place. Creating a consensus for stability complements rather than contradicts any case for change.

3. DEVELOP OUTWARD AS WELL AS UPWARD ACCOUNTABILITY, TO LEARNERS AND LOCALITIES

Simply finding one or two inspiring examples of innovation doesn't help if I'm a headteacher with apparently masses of autonomy but who is inspected and assessed against traditional criteria.

–

Paul Roberts

Accountability is often presented as a zero-sum game, only ever increasing or falling. It is better seen as a graphic equaliser; where one aspect of accountability rises, another will fall. Anne West et al identified seven types of accountability in schools[106]. Of these seven, hierarchical and market accountability are increasingly dominant in English-speaking countries, and have increasing influence, via external funders, on education systems in emerging economies. The greatest loser is 'participative accountability', where a diverse range of local stakeholders – including parents and pupils – should help determine what a school should be accountable for, and to whom it should be accountable.

By contrast, a common feature of system-wide innovation strategies, from British Columbia to New York City, has been to rethink rather than reduce accountability, moving from a top-down hierarchy to the development of professional cultures where accountability is intelligently determined, shared and diffused. Risk aversion as a barrier to systemic innovation is nullified by a broader efficacy and sense of agency amongst professionals. Michael Apple's notion of 'democratic professionalism' resonates here, in that schools do not merely capture state power, but distribute this power through alliances with a broader set of stakeholders.[107] This should be seen as a transfer rather than a reduction in accountability – from vertical to horizontal.

Rethinking traditional top-down accountability will rely on a collaborative culture which brings new entrants into the system of governance. Collaborative governance involves holding each other to account, as well as being held to

account more directly by the public. Parents, carers, and also learners themselves, can be partners with teachers and government in both designing and governing the learning landscape.

Innovating a governance structure is like any other innovation process – the system must support and reward appropriate risk and provide system actors the space to incubate, test and scale new ideas, be they peer-to-peer accountability measures, school-to-school monitoring structures or empowered parent and student associations. Ideally, there will be a demand for more innovative governance structures that enable new power and promote more collective processes – outwards as well as upwards. System leaders, whether employed by or working closely with government, will need to be stewards to this vision, supporting a coalition of partners to emerge with new roles, regulations and powers.

4. CREATE AND PROTECT GENUINE SPACE FOR LOCAL CURRICULUM DESIGN

Across the world, huge efforts are made to create national curricula that balance competing demands. For any nation, a curriculum defines its values and reflects hopes for future generations. Any attempt to try and 'depoliticise' the curriculum is neither desirable nor realistic. As the OECD's Andreas Schleicher has argued, curriculum design should be seen as a 'grand social project'.

There is a general consensus that a strong, stable, state curriculum should provide a minimum entitlement, largely based around a body of knowledge, but should not define everything that is taught in schools.[108] The national, state or province curriculum should thus never be the whole curriculum.

School communities need the space to determine a set of additional curricular aims and content that are responsive to the context of their locality and the needs, talents, passions and interests of their pupils. The voice and involvement of the learner should be central to these processes, seen both as intrinsically valuable and as an instrument for increasing engagement.

Governments spend significant resources on regular evolutions to their national curricula. Whilst this may have value (and be central to creating the 'case for change'), the key factor for success is not to make your national curriculum perfect, but to turn down its volume.

Despite teachers' best intentions, various political and managerial forces have turned assessment into a reductive shell of what it could be.

This is not just a question of assessment methods – but also of values: what skills, competencies and knowledge do we really value, and what metrics can reflect these?

However slim your national curriculum appears to be, it will dominate schools' attention and pupils' time, unless your regulatory regimes explicitly expect schools to design a 'whole curriculum' in which the national curriculum is a necessary but not sufficient element. Such design should be done through a genuine partnership with individuals and institutions in a school's community – to create a curriculum designed by, with and for a locality.[109] The process through which a school (or group of schools) determines its own curriculum forces and enables schools to think about their aims, ethos, and partnerships with the wider community – all key factors in building great schools.

Of course, schools and others will find space to innovate within any national curriculum, however dominant or constraining. However, rather than focusing exclusively on creating a national curriculum that is 'twenty-first century' enough to encourage innovation, governments should create and protect spaces for local curricula to thrive. The power of co-creation is a resource left broadly untapped in education systems. Nurturing learner agency and involving users in the process of curriculum change through closer, finer understanding of their needs and passions can unearth massive gains.

5. PRIORITISE INNOVATIONS THAT TRANSFORM APPROACHES TO ASSESSING STUDENT OUTCOMES

As dissatisfaction with the outcomes of existing mass schooling systems grows, the spotlight has increasingly shifted to the inadequacy of current assessment systems and the metrics upon which they depend. Levy, Autor and Murnane demonstrated over ten years ago that the skills which we tend to test are those which are easiest for machines to undertake, which will therefore be less in demand from humans.[110] Whilst our education systems focus on a narrow set of poorly assessed metrics, they obstruct the development of the kind of powerful learning systems that our societies urgently need.[111] Assessment will always have multiple purposes, but a primary concern should always be the learner, enabling reflection and critical analysis, helping students understand where they are and how to progress.

Despite teachers' best intentions, various political and managerial forces have turned assessment into a reductive shell of what it could be. There are some signs of change, as various working groups attack the problem.[112] This is not just a question of assessment methods – but also of values: what skills, competencies and knowledge do we really value, and what metrics can reflect these?

Whilst new technologies offer huge opportunities to transform assessment methods – for example the potential for fast on-line assessment (in the context of competency – based on learning that MOOCs are innovating) to provide learners with great feedback, the bulk of this effort has been in the automation of existing paper-based methods, rather than exploiting technology's potential as a tool to support valid, holistic, real time assessment processes, especially of more complex, interactive tasks.[113]

System leaders urgently need to focus innovation efforts at assessment in a number of ways. We need new approaches to the co-construction of agreed outcomes amongst employers, teachers and assessment experts. We need to move beyond endless lists of broader outcomes towards detailed definitions and understanding of progression in these outcomes. We need to explore possibilities for pupil-informed and citizen-led assessments, where parents and others administer simple tests to get an indicator of learning levels.[114] And we need teachers to reclaim their role in designing and owning assessment processes, and making judgments which are trusted by all. Only then will assessment reach its potential as a dialogical tool between teachers and their students that can inform learning progression more responsively and productively. There would then be a chance that teaching practices will be guided by information from rich, complex assessments, rather than oriented towards narrow, external validations.

6. PLACE DELIBERATE, RIGOROUS FOCUS ON THE DEVELOPMENT OF TEACHERS' INNOVATION CAPABILITIES, THROUGHOUT THEIR CAREERS

We need systems and cultures that empower teachers and school-leaders to take risks. This requires collaborative professional development to give all teachers the capacity to have a sophisticated relationship with research and evidence, so that they are not just 'doing what works', but asking 'what might work', and adapting ideas to best fit to their own context.[115] At the policy level, any creation of common sets of standards for teachers should consider how the 'capacity for disciplined innovation' can be included.

Similar to our proposition around accountability, teacher empowerment in and through innovation is not a return to a pre-scrutiny golden age. It requires even greater levels of transparency and 'warranted practice'– demystifying teachers' work and leaving it open to collaborative critique and participation from non-experts. DuFour and Eaker describe this as a 'deprivatisation' process, maximizing the visibility of teachers' to all, rather than just to head teachers and inspectors.

This re-empowerment, far from reducing the importance of the teacher which, in the wake of the digital explosion, many have predicted, actually enhances their key role. They can, and need to, become designers of learning experiences. Design techniques are becoming increasingly common amongst innovators, with the education landscape a fertile land left largely neglected. Design thinking requires a powerful alignment of analytical and intuitive thinking. As Tom Sherrington, head teacher of Highbury Grove School in London wrote in response:

"Innovation and creativity are words that can be barriers for some people, suggesting novelty for its own sake and perhaps insufficient respect for the body of knowledge that already exists. Design is a form of creativity that suggests deliberate, planned innovation built on a foundation of research-informed professional wisdom. I like that – and I think other teachers would too." [116]

Berry et al use the phrase 'teacherpreneurs' to describe a new cadre of teacher leaders who combine classroom teaching with the development of connections and ideas that have influence beyond their institution.[117] Whilst the term is clumsy, the sentiment is correct – a new, deliberately created cohort of 'teacher innovators' who have their feet planted firmly in the grounded classroom, but are deliberately facilitated and skilled to take calculated risks, often in partnership with external players. Teacher innovators will need to learn how to design tough-minded evaluation processes that aim to understand, rather than demonstrate, the impact of specific interventions, making these interventions as visible as possible so that others can understand, critique and improve them.

7. REDIRECT SOME PROPORTION OF A JURISDICTION'S EDUCATION SPENDING TO AN EXPLICIT INCUBATOR PROGRAMME, TASKED WITH RADICALLY INNOVATING ON BEHALF OF THE SYSTEM AS A WHOLE

Establishing intentional, labeled spaces for innovation would be in line with the practice of almost any other type of successful enterprise

which ensures it invests some proportion of its resources on its future. The evidence on scaling and diffusion suggests that the task should not be solely about generating new practises and models; nor just, additionally, enabling high fidelity replication of proven powerful new approaches.[118] Just as importantly, scaling requires creating collaborative communities of practice and engagement so that changes have the chance to permeate and are absorbed systemically by other teachers. A variety of support agencies could provide guidance, resources, connections and facilitation. Through changed incentives and regulatory systems (see above), practitioners should be encouraged to seek out and adopt more powerful pedagogic practices. Thus safe spaces could be provided for prototyping and testing new models – innovation zones, hubs, incubators which operate at the system level.[119]

This incubation needs to go beyond skunkworks and individual institutions in order to consider the interrelationships between layers of the sector, for instance finding ways to integrate high school and college provision, overcoming deep and unnecessary silos in the system.[120] It is important, too, that innovation spaces are explicitly – proudly – designated as the system's 'design and trial' wing, allied to a strategy for diffusion and spread of successful initiatives, including the many which will occur outside these designated spaces. This would entail support for communities of practise and engagement, taking advantage of and growing from existing teacher communities online. There are exciting exemplars around the world, such as teach-meets. Aligned to proposition 6, above, a key element would be a skill-building strategy to enhance teachers' capacity in assessing evidence associated with new practices, and understand the processes of adapting practices to their own context.

8. BUILD SYSTEMS OF COLLABORATIVE PEER LEARNING TO SUPPORT THE ADAPTIVE SCALING OF INNOVATION

Creative Public Leadership relies on the empowerment of system actors to work freely and collaboratively, with agency, to become greater than the sum of their parts. Connecting and nurturing coalitions of stakeholders and practitioners, educators, edupreneurs and policy makers, is of paramount importance if systems are to utilise the collaborative power of their people. The professional learning hubs that emerge will reinforce the sense of professionalism, inclusivity and collaboration needed to reap the benefits of a twenty-first century education ecosystem.

We've used the language [of partnership] too loosely. This is about building capacity, particularly social capital, through much more deliberative and sophisticated forms of collaboration. How might it be possible for the 'beautiful exceptions' to be much smarter about building communities of practice?

–

Anthony Mackay,
Centre for Strategic Education

Such high-trust collective agency requires an embedded culture, as well as facilitative structures, for collaborative learning. This should provide learning opportunities that allow them to explore, share and unpack expert, as well as collegial, knowledge and new competencies as the empowered professionals that they are. It is crucial that this occurs both vertically – to system leaders, universities and others up the traditional hierarchy – but also horizontally between professionals; teachers, edupreneurs, local business leaders, parents and students themselves.[121]

In many sectors, the scaling of innovation relies on high-fidelity adoption of successfully tested models. Whilst this may be true in some cases in education, the process of teaching and learning is so dependent on context and relationships, scaling processes that rely on faithful adoption are liable to fail. Instead, scaling needs to be designed with adaptation in mind; genuinely 'open source' in that practitioners should be expected to share the rationale, processes and outcomes of any adaptations they do with others. Collaborative peer networks, built on the latest evidence about effective professional development moves away from any 'cascading' model, can become the foundations for creative, effective adaptation.

9. PUT SYSTEM ENTREPRENEURSHIP AT THE HEART OF SYSTEM LEADERSHIP

If transformation is to come from within education systems themselves (contrary to the views of many commentators) – and currently this would appear to be a very big if – then it will depend upon the emergence of a different kind of leadership. This will be leadership which has authentic conviction about the potential for education as humanity's best hope; and which can both assemble a compelling case for change and communicate it. This will require leaders who understand that this is not a quest to converge on a single solution, or 'total strategy'; leaders who have the political savvy to create the legitimacy for radical change, and who draw on international networks as a source of imaginative ideas rather than prefabricated policies.

Taking on this role requires a fundamental shift in the identities of system leaders. Of course those working

within governments are constrained by the requirement to fulfil politicians' mandates. Notwithstanding, we see around the world public servants who can conceive of going beyond servicing a bureaucracy, but rather look to make a long term difference. This brings us back to the concept of system entrepreneurship. Building on Frances Westley's typology, we define the key roles of system entrepreneurs as follows:

- **Facilitators** – creating consensus amongst various stakeholders through designing opportunities for dialogue that help reframe the status quo.

- **Brokers** - creating "bundles of financial, social, and technical solutions that offer a real alternative to the status quo"

- **Advocates** – advocating ideas to those with political or financial influence, or who can change public opinion

- **Stewards** – holding innovations and ideas to account on behalf of the public and the broader system vision

- **Forecasters** – balancing and responding to short and longer term demands for change[122]

Education systems entrepreneurs, whether based in governments, school groups, foundations, campaigns, or edu-techs, are looking to create a new eco-system of learning opportunities, putting equity at the heart of their efforts. They are supporting partnerships and dialogue between public and private schools (elite and low-cost), NGOs and private enterprises, working in, through and outside of schools, rather than set these up in opposition. They are carefully balancing the demands of innovation for short term improvement with longer term, more transformative innovation.[123] We conceive of this as running a 'split screen'[124] – familiar to leaders in many other contexts: business leaders for example speak increasingly of attending to the 'triple bottom line', of people, planet and profits.[125] This requires keeping one eye on keeping a system going and meeting today's demands, and the other looking towards the needs that are left

If transformation is to come from within education systems themselves then it will depend upon the emergence of a different kind of leadership. This will be leadership which has authentic conviction about the potential for education as humanity's best hope; and which can both assemble a compelling case for change and communicate it.

unmet, and making sure the system is adapting as fast as possible to meet them. Within all these processes, system entrepreneurs are acutely aware of, and prepared to challenge, power relationships.

NEXT STEPS

We offer these proposed first steps as suggestions for those frustrated with the rate of change, but who feel locked into a resilient 'system' seemingly impermeable to shift. Each one of them can be instanced by exemplars across the globe – few in numbers but increasingly influential. WISE creates the space for debate about the viability of our proposals – what resonates, what has been omitted, and how momentum can be built. A movement for radical innovation in publicly-funded education is overdue, and we need a road map. This report offers a sketch.

#6

SYSTEM-WIDE INNOVATION: FIVE JOURNEYS IN PROGRESS

#6 SYSTEM-WIDE INNOVATION: FIVE JOURNEYS IN PROGRESS

Whilst it is easy to find isolated pockets of innovation within schools and school systems, identifying successful system-level attempts is more challenging. Whilst the report's footnotes include a number of examples, here we present five more detailed, deliberately contrasting examples of system-level innovations. All five should be seen as 'journeys in progress'; whilst each exemplifies some of our proposed next steps, none are fully-formed exemplars of successful system-wide innovation. They are therefore offered not as perfect case studies worth copying, but as emerging approaches worth watching.

SOUTH KOREA – FREE SEMESTER PROGRAM

AMBITIONS

South Korea's *Free Semester Program* (FSP) looks to promote learner agency by providing opportunities for students to participate in learning activities beyond the traditional curriculum, based on their own passions and talents. During this semester of middle school, students (aged 13-16) are not only encouraged to engage in a variety of school and extracurricular activities that focus on boosting their career planning and creativity, but are also free from the burden of tests. The introduction of the FSP is seen to promote a system transformation of middle school including curriculum, teaching methods and assessment.

CASE FOR CHANGE

The South Korean education system has been lauded as one of the highest-performing systems in the world. However, concerns are growing throughout society about the negative impacts of the current system. In particular these are:

- the human cost of ever higher performance pressure on young South Koreans;
- the impact of the high-stakes testing culture on teachers themselves;
- an over-reliance on simple memorisation, rote learning, and a 'cram culture';
- the underdevelopment of higher order capabilities; and
- the inability of the education system to help stimulate a stalling economy.

These concerns come in the face of an increasingly competitive graduate labour market. The Free Semester Program seeks to promote a shift from a knowledge and examination-oriented education to a system which nurtures the creative talents of students and shapes a modern creative economy.

WHAT HAS HAPPENED SO FAR

Piloting and roll-out

Since 2013, the Free Semester Program (FSP) has been piloted by 80 middle schools. From 2016, the Ministry of Education will roll out the programme to all 3,713 Korean middle schools in 2016 at a cost of $35k (US) per school in its first year and an average of $20k annually thereafter.

Self-leading learning

For one semester, or around half of the academic year, students study normal lessons in the morning but every afternoon take part in a 'selective curriculum'. Students are given a chance to build their creativity and explore career options through self-directed or collaborative activities. This includes sports and arts, career exploration activities, and hands-on experiences. Students can nominate their own course of study – approved by their school Principal – or take part in various options offered by the school, which might include work-based learning.

Protecting the free time

During the free semester, no assessment takes place. Policymakers want to encourage teachers to make sure the 'free' time is protected, and doesn't become used for additional academic study. Unlike a normal semester, where students are required to spend 33 hours learning 7 to 10 subjects a week, they only spend 21 hours learning basic curriculum during the no-test semester, without the pressure of exams. Students don't have to take written examinations and schools have curriculum flexibility to expand activities based on partnerships between schools and local communities. The suspension of assessment is also seen to enable the development of new metrics and instruments that can effectively measure student progress in both cognitive and higher order capabilities.

CHALLENGES AND NEXT STEPS

Some parents, and a minority of teachers, have expressed concern that as a consequence of the FSP their child might not be able to compete and could do less well in academic subjects. Consequently, in the immediate future the priority will be to ensure that all Korea's middle schools are able to articulate clearly how their free semester programme enhances their core curriculum offer in terms of the improved learner outcomes for students, both academically and for broader skills such as creativity and collaboration.

The learning ecosystems that extend beyond schools – the partnerships with external organisations which are necessary to support the expanded curriculum and are fundamental to the success of FSP - will require nurturing and further development.

The programme requires a sea-change in the roles of teachers, who will therefore need programs of powerful professional learning to be put in place if they are to be supported in making the shift from wholly teacher-centric approaches.

For the program to be sustainable and impactful, it needs to ensure it does not become a siloed program and has a broader impact on the general pedagogy and approach that shape the rest of students' experiences.

CREATIVE PUBLIC LEADERSHIP INDICATOR

• South Korean policymakers built a *powerful case for change* that has captured the distinct challenges faced by the current status quo.

• South Korea's Free Semester Program is *creating and protecting genuine space for local curriculum design* by giving schools – specifically Principals – the opportunity to shape the expanded curriculum which their students can embark upon.

• South Korea's Free Semester Program is *prioritising innovation in assessment and metrics* and is positioned to spark the development of new metrics for learner outcomes, especially for higher-order capabilities.

QUOTES

"I feel like I have grown a lot during the test-free semester.",
Han Gyu-ri, a first grader at Seogwi.

"Many students appeared to enjoy the activities and classes they chose.",
Education Minister Hwang Woo-yeo.

FURTHER READING

http://www.koreatimes.co.kr/www/news/nation/2014/12/116_169600.html

AUSTRALIA – LEARNING FRONTIERS

AMBITIONS

Created by the Australian Institute for Teaching and School Leadership (AITSL), *Learning Frontiers* aims to transform teaching and learning so that every Australian student succeeds in an education worth having. The programme brings together clusters of schools and other interested parties – 'Design Hubs' – to explore professional practices that increase student engagement in learning.

The ambition of Learning Frontiers is to build the innovation capabilities of schools and teachers, supporting them to co-design, develop, and test professional practises in learning, teaching and assessment that will foster the deep engagement of all Australian young people.

CASE FOR CHANGE

The programme is predicated on the belief that the system needs to focus on engagement in learning rather than schooling. Research shows that motivation and engagement have a higher effect on student achievement than numerous other in-school factors. But so much schooling has fallen out of step with the outside world, and out of favour with students. Students are disengaged from learning at school for a variety of reasons:

• Learning is disconnected from their real world – a world that is fast-paced and rich in challenge and collaboration, and that embraces social media and technologies;

• Students perceive that education is too focused on exam results and is not preparing them for their careers and lives in the twenty-first century; and

• Despite efforts to improve formal qualifications and work-based training, more must be done to build those life skills that are fundamental to a successful adulthood.

Teachers work tirelessly to make a significant impact on their students, but many people feel disillusioned and inhibited by the way schools and teaching are currently organised.

WHAT HAS HAPPENED SO FAR

Animating the system

Practitioners, school leaders, parents and employers were invited to contribute to design principles for engaging learning. The initiative consequently focused on learning practises that were connected, co-created, personal, and integrated. Schools involved in the initiative explored the problem of engagement amongst their own students, contributing to the development of a national baseline.

Creating the conditions for creative communities

Working in five Design Hubs across Australia, schools were supported to push the boundaries of the design principles by designing and developing professional practises for learning, teaching, and assessment. Each Design Hub developed a set of clear, focused questions to guide the enquiries on the four design principles, for example *'how do we ensure intellectual stretch when students co-design learning?'* and

'How do we personalise learning to deeply engage students?' They also considered what external support, leadership, and governance arrangements were required for the hub to function. They sought to grow a culture of shared accountability by: creating an authorising environment for innovation through new permissions; setting boundaries to focus the hub on what's important; holding participating individuals, institutions, and schools to account; and allocating resources to deliver the hub's vision.

Design and development

Schools came together in their own cities to officially form their Design Hubs and begin the process of developing an action plan for the activities of their schools. They used the enquiry questions as the basis for creating questions for their own school context, and considered what the implications of these explorations might be for leadership, pedagogy, assessment, and technology, amongst others. All schools then developed and tested new ideas, with promising practice beginning to be spread beyond where it originated into other schools throughout the country.

CHALLENGES AND NEXT STEPS

The innovation Design Hubs are gradually moving towards self-sustainability. They are now responsible for national oversight, governance, and communications for the program, and are pursuing cross-sector industry partnerships with business, philanthropy, and education. Building these strong and long-lasting relationships is crucial to ensuring the sustainability of these creative professional communities and their further incorporation into the professional development landscape in the Australian education system.

CREATIVE PUBLIC LEADERSHIP INDICATOR

• Learning Frontiers built a *powerful case for change* around the need for deep engagement in Australian students, striking a chord with a wide range of stakeholders within the education system.

• Learning Frontiers *placed intentional, rigorous focus on the development of teachers' innovation* capabilities through support for schools to participate in design thinking by belonging to Design Hubs across the country.

• Learning Frontiers was an initiative designed to act as *an explicit innovation incubation program*, to develop and test new professional practises.

• Learning Frontiers *built systems of collaborative peer learning to support adaptive scaling of innovation* by creating and supporting Design Hubs and Lab schools to spread developed and tested practise.

• Learning Frontiers has *put system entrepreneurship at the heart of system leadership* by facilitating a culture of shared ownership and accountability through the Design Hub model.

QUOTES

"There is no easy solution, but with the right tools and support, schools and teachers can work together as creative communities that can respond to the challenge of engagement and design their way to better practice." – AITSL

FURTHER READING

http://www.aitsl.edu.au/learning-frontiers
https://www.youtube.com/watch?v=Kqy7nw9UcsY&feature=youtu.be

BRITISH COLUMBIA - K12 INNOVATION STRATEGY

AMBITIONS

British Columbia's most recent *Education Plan* looks to transform the learning experiences of young people to be more personalised, engaging, and connected to their wider culture and environment. Personalised curricula and pedagogies, a reduction in the number of specified learning outcomes and greater flexibility in where and when learning takes place, all feature.

CASE FOR CHANGE

British Columbia (B.C.) continues to perform at significantly higher than the OECD average and at or slightly above the pan-Canadian average in reading, mathematics, and science. Yet certain concerns have emerged:

• Other countries are improving at a faster rate and pushing Canada and British Columbia down the PISA rankings;

• The continued low achievement of First Peoples students;

• Student disengagement, particularly amongst adolescents;

• A growing consensus that strength in basic skills is a necessary but insufficient ingredient in a twenty-first century education;

• A growing awareness amongst a small group of educators in the Ministry that the industrial model of schooling was severely limiting the potential of young people.

Conversations began about the *transformation* of the education system, and there was a new sense of urgency that it was time to a radical review and overhaul.

WHAT HAS HAPPENED SO FAR

Co-constructing twenty-first century education

The leadership group within the Ministry realised that the shift envisaged was so significant that they would require support from every part of the system to make it happen. Officials toured the province to consult widely around the need for transformation. By doing so, they were able to prosecute, develop and communicate the case for change and inform the new B.C. Education Plan. The Ministry itself underwent a transformation in an effort to become a twenty-first century learning organisation fit to lead such a system-wide transformation. Leaders sought to model the change they wanted to see in the wider system.

A new framework for learning

The Ministry began with an inclusive process of transforming the curriculum and assessment from one that focused on coverage of content standards to a framework for learning. There was a desire to reduce the number of specified learning outcomes and start to emphasise competencies in addition knowledge, making it easier for teachers to aim for deeper learning, or to practise enquiry-based pedagogies. The new curriculum comprises of reined-in content standards and new cross-curricular competencies, as well as new assessment metrics.

The K12 innovation partnership

The Ministry knew that the curriculum's potential would only be fulfilled if it was embraced outside of government. The message was that rethinking pedagogy was not – and could not be – the Ministry's problem to solve. To help the development of pedagogies that can meet the aspirations of the curriculum, the Ministry announced an 'Innovation Partnership' to support schools in developing ambitious new pedagogies. It provides an infrastructure where schools can receive support from the Ministry and a range of partners to pursue ambitious pedagogical designs. Support might take the form of financial resources - the Ministry has allocated a shared pot of $500,000(CAN) of funding - but could also be the opportunity to work with particular research or technology partners, or to receive waivers from particular system requirements. The application process involves a relatively open remit: applicants are not required to focus on particular themes, but rather must commit to engage in a rigorous process.

CHALLENGES AND NEXT STEPS

• Effectively supporting the development of the ambitious new pedagogies

• Ensuring teachers are equipped with the innovation capabilities needed to take full advantage of the K12 Innovation Partnership

• Developing a system-wide strategy for adapting and scaling successful new approaches

CREATIVE PUBLIC LEADERSHIP INDICATOR

• British Columbia built a *powerful case for change* that struck a chord with a wide range of stakeholders within the education system.

• British Columbia chose to *move away from centrally-driven reforms*, instead taking up a position of stewardship and enablement of the broader education ecosystem to pursue evidence-based innovations.

• British Columbia shifted from a curriculum focused on content coverage, to a less complex learning framework, creating space for local curriculum design.

• British Columbia *prioritised innovation in assessment and metrics* as part of their curriculum redesign, establishing advisory groups to

form new assessment models.

• British Columbia created and financed an *explicit innovation incubator program*. Their K12 Innovation Partnership offers support to system actors to innovate on behalf of the system, in pursuit of new pedagogies.

• British Columbia *put system entrepreneurship at the heart of their system leadership* by facilitating stakeholders in the system to own the vision and direction of travel, while brokering finance and technical support needed to develop evidence-based innovations.

QUOTES

"Inspired by innovative change already taking place in BC communities… BC's education plan responds to the realities and demands of a world that has already changed dramatically and continues to change.", George Abbott, Minister of Education, B.C..

FURTHER READING

http://www.bcedplan.ca/

NEW ZEALAND – LEARNING AND CHANGE NETWORK STRATEGY

AMBITIONS

New Zealand's *Learning and Change Network* strategy sought to establish lateral knowledge-sharing networks among Kura[1] schools and communities to grow capability and to accelerate achievement of priority learners in ways that recognise cultural diversity and grow innovative and future-focused learning. The Learning and Change Networks (LCNs) aimed to alter the agency around student learning to become a shared responsibility among students, teachers, family, whānau[2] and school and community leaders, equipping all New Zealanders with the knowledge, skills, and values to be successful citizens in the twenty-first century.

[1] Kura Kaupapa Māori are Māori-language immersive schools (Kura) where philosophy and practise reflect Māori values with the aim of revitalising Māori language, knowledge and culture.

[2] Māori word for extended family.

CASE FOR CHANGE

Despite improvements in learning outcomes across New Zealand

education concerns have grown that a primarily teacher-directed and driven system is not enabling many learners to achieve the necessary skills and qualifications they need for their future success. In particular, there are significant disparities in learner achievement amongst Māori and Pasifika pupils, and learners from low socio-economic groups and learners with special educational needs. This is reflected in persistent achievement gaps, both within and across Kura and schools, and has created a sense of urgency in New Zealand to accelerate student achievement to achieve equitable learner outcomes.

WHAT HAS HAPPENED SO FAR

Sustained partnerships and interdependence

The LCN strategy sought to form lateral connections between students, parents, teachers, and community members from multiple schools to collaborate in developing innovative new learning environments. The design focused on sustainable partnerships and interdependence. Each network had a few core leaders who worked closely with a team of facilitators and the Ministry's advisor to negotiate a programme. The facilitator framed the design-implementation-evaluation possibilities; the network leaders drove the activity; and the Ministry advisors supported and monitored the developments and feedback information into policy thinking and design.

The new owners of change

The LCNs were actively framed and designed not as professional learning communities that emphasise learning and assume change as a consequence, but rather as communities of practice which actively own the learning and the change itself. They set their own change agendas, led their own strategies and evaluated the effectiveness and impact. LCNs were supported with specific resources but were ultimately responsible for the direction of travel. The network experience broke the mould of supply-driven 'hand-out' strategies, instead focusing on more demand-driven mind shifts and practise improvements. For example, students and parents came together across Kura and schools to share their views about achievement trends, about teaching and learning, using data, engaging communities, addressing barriers, supporting transitions and prioritising resources.

What support looked like

Network activity was facilitated by The University of Auckland's implementation team and the Ministry of Education's advice team.

They provided network leaders with optional strategy tools and suggested ways to induce activity, with those leaders choosing how to proceed. Facilitators also supported network-to-network learning through a network leadership group. Leaders devised activities as a collective, and shared their experiences of them at regional events and cross-network school-to-school visits (virtual or face-to-face). Groups combined appreciative enquiries from within networks with cross-network sense-making, to learn and instigate change faster and ensure innovations are spread beyond specific LCNs.

CHALLENGES AND NEXT STEPS

The Learning and Change Network strategy has officially concluded, but the Ministry has launched a widespread *'Communities of Schools'* programme based on the LCN strategy, with the intention to work at scale. Much will depend on:

• Whether the integrity of the LCN approach can be retained at a larger scale;

• Whether the support that schools can access avoids the pitfalls of administratively-driven networking programmes, which can become more bureaucratic, and less dynamic and change-focused.

CREATIVE PUBLIC LEADERSHIP INDICATOR/KEY

• New Zealand built a *powerful case for change* that struck a chord with a wide range of stakeholders within the education system.

• New Zealand chose to *move away from centrally-driven reforms*, instead taking up a position of stewardship and building the systemic capacity to drive and lead change from within the networks.

• New Zealand developed *outward as well as upward accountability, to learners and localities* by inviting parents, students, and school and community leaders to take responsibility for learning and change.

• New Zealand built *systems of collaborative peer learning to support the adaptive scaling of innovation* by shifting the intervention logic from passive routines to active adaptations created across schools.

• New Zealand *put system entrepreneurship at the heart of its system leadership* by facilitating stakeholders in the system to own the vision and direction of travel, while offering technical support and

resources to network leaders.

QUOTES

"The other initiatives were top down – facilitator works with leaders, leaders work with teachers, teachers work with the kids. This initiative prompts all people in the school environment to actually design the work and design their own actions and their part in it at the front end of things."
- LCN Leader

FURTHER READING

http://nzcurriculum.tki.org.nz/System-of-support-incl.-PLD/School-initiated-supports/Learning-and-Change-Networks-LCN

https://www.youtube.com/watch?v=7w2RYdZYAJo

NIGERIA – SYSTEM-WIDE INTERVENTION THROUGH NON-STATE ACTORS

AMBITIONS

Whilst a commitment to the Education for All Goals has led to significant increases in school enrolment and staying-on rates in Nigeria, learning outcomes remain poor. Globally, the new Sustainable Development Goals have contributed to a shift from inputs to learning outcomes. However, Nigeria does not have a strong reputation for fostering innovative approaches to learning and schooling to achieve these more ambitious goals. Advocacy for a systematic approach to innovation in the country is currently led not by government but by non-state actors who understand the need for innovation to enable rapid improvements to learning and broader conceptions of the outcomes that schools should aspire to.

This analysis features the work of The Education Partnership Centre (TEP Centre). The Centre's focus is on establishing partnerships that stimulate access, quality, and equity, whether through strengthening citizen voice, curriculum or teacher development, improved resource utilisation, or access to digital technologies.

CASE FOR CHANGE

Against the background of a rapidly globalising world and an exponential increase in the knowledge economy, there is growing dissatisfaction amongst many Nigerians with the 'factory approach' to schooling predominant across Nigeria and West Africa. TEP Centre believes that Nigeria, as the most populous African country, needs to play a leadership role in rethinking schooling across the whole West African region. The Centre is at the heart of a small but growing 'coalition for change' – an ecology of partnerships and multi-sector approaches that aim to support innovative approaches to improving learning outcomes, and to begin to rethink which outcomes should be most valued. As a preliminary foundation for a wider 'case for change', this network is likely to be crucial.

WHAT HAS HAPPENED SO FAR

TEP Centre is the Nigeria hub for The Centre for Education Innovations, a global programme charged with identifying, profiling, and helping to scale innovative educational practises. TEP Centre analyses what makes innovations effective, the context in which innovations are birthed, and the challenges and priorities of funders and policymakers. Technical assistance is then provided to enable scaling through institutionalisation, replication, and expansion. The work has included:

• An analysis of the landscape of education innovation in Nigeria, leading to the 2015 Nigerian Education Innovation Summit - an opportunity to consider what evidence might support a change in mindsets about how best to prepare young people for the future.

• The establishment of LEARNigeria, the citizen-based assessment model, originally trialled in India, which strengthens accountability and parental and community engagement. In Nigeria, this was developed through partnerships with over 30 state and private sector institutions.

• A partnership with the MacArthur Foundation and ExpandNet to scale innovations in girls' secondary level in several states.

• Research with Dalberg Global Development Advisors and the Ford Foundation, studying the relationship between secondary and vocational education curricula, youth unemployment, and labour market needs.

CHALLENGES AND NEXT STEPS

Serious resource constraints and 'financial leakages' often render difficult any attempts at meaningful system-level reforms. Whilst monitoring and evaluation of inputs, activities, and outcomes is improving in several states, too much is still occurring on a programme basis. Common approaches to impact evaluation which enable aggregation of data and evidence are needed.

Equity issues are growing. As well as the entrenched position of elite private schools, the exponential growth of low fee private schools is stratifying schooling amongst the poorest communities. These schools are nevertheless latent innovators, and many of their effective approaches need to be understood and supported. There are also opportunities for establishing innovative mid-cost schools designed to meet the demand of a growing Nigerian middle class.

The state sector will need to innovate to have any chance of closing quality and achievement gaps. It may be that a more forward-thinking State in Nigeria can begin to model a more systemic approach to innovation. To do this, as well as making the case for change, it would need to *identify change agents and leaders within the public, NGO and private sectors that are willing to take some evidence-informed risks that might lead to radical and rapid learning gains.*

CREATIVE PUBLIC LEADERSHIP INDICATOR

• TEP Centre's approach to multi-sector collaboration is creating the foundations for the *adaptive scaling of innovations*

• The citizen-led assessment model is an important innovation in assessment that supports outward as well as *upward accountability. Furthermore, embedding local community action into the assessment process creates opportunities for creative problem solving by local education stakeholders including parents*

• The research into labour market needs is creating space *for important discussions on local curriculum design and implementation*

QUOTES

"Education is part political economy and so to change an education system you need to understand the political context and how to change the

dominant hegemony. The huge emphasis on being driven by global agendas must be complemented by an internal focus and asking: What does this country want to become in the next fifty years, and how can our education system contribute to this vision?"- Dr. Modupe Adefeso-Olateju, Director, TEP Centre

FURTHER READING

http://tepcentre.com/wp-content/upoads/2013/06/CEI_NEDIS-Report_Final_-28July2015.pdf http://educationinnovations.org/blog/evidence-action-how-nigeria-beginning-citizen-led-assessment-end-mind

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About the RSA

The RSA (Royal Society for the encouragement of Arts, Manufactures and Commerce) believes that everyone should have the freedom and power to turn their ideas into reality – we call this the Power to Create. Through our ideas, research and 27,000-strong Fellowship, we seek to realise a society where creative power is distributed, where concentrations of power are confronted, and where creative values are nurtured.

Aligned to this view, RSA new education mission is to close the creativity gap in learning. We believe that cultivating everyone's creative capacities throughout life, working particularly with individuals and communities who lack the opportunities, power and resources to realise their aspirations, is crucial for an adaptive, inclusive society. Our programme of research, innovation and mobilisation aims to inspire debate, influence policy and change practice. For more information, contact education@rsa.org.uk.

About the Innovation Unit

Innovation Unit are innovation experts – a collaborative of designers, researchers, public service leaders and practitioners. Innovation Unit staff are committed to advancing innovative practice and inspiring change in a range of health, education and local government settings, in the UK and globally. The Innovation Unit works with governments around the globe from Australia to Brazil, to support them to transform their education systems.

Innovation Unit's Global Education Leaders Partnership (GELP) is working with education system leaders, academics, policy makers and practitioners to transform education systems around the world. It is aimed at creating education systems that better suit the needs of the twenty-first century. Through this work we have developed an in depth knowledge of the realities of education systems around the globe, as well as a series of conceptual tools and frameworks to aid thinking and planning for system level change, contact@innovationunit.org

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Disclaimer
Any errors or omissions remain the responsibility of the author(s).

About WISE
Qatar Foundation, under the leadership of its Chairperson, Her Highness Sheikha Moza bint Nasser, established the World Innovation Summit for Education in 2009. WISE is an international, multi-sectoral platform for creative thinking, debate and purposeful action that contributes to building the future of education through innovation and collaboration. With a range of ongoing programs, WISE has established itself as a global reference in new approaches to education. The WISE Summit brings together over 1,500 thought leaders, decision makers and practitioners from education, the arts, business, politics, civil society and the media.

The WISE Research Reports bring key topics to the forefront of the global education debate and reflect the priorities of the Qatar National Research Strategy.

These publications present timely and comprehensive reports produced in collaboration with recognized experts, researchers and thought-leaders that feature concrete improved practices from around the world, as well as recommendations for policy-makers, educators and change-makers. The publications will focus on topics such as system-level innovation, teacher education, early-childhood education, new ways of financing education, entrepreneurship education, well-being, twenty-first century skills and education reform in the Gulf Cooperation Council Countries.

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