Microsoft

Vision for Change

Education Transformation Framework

Vision for Change:
Anywhere, anytime learning for all

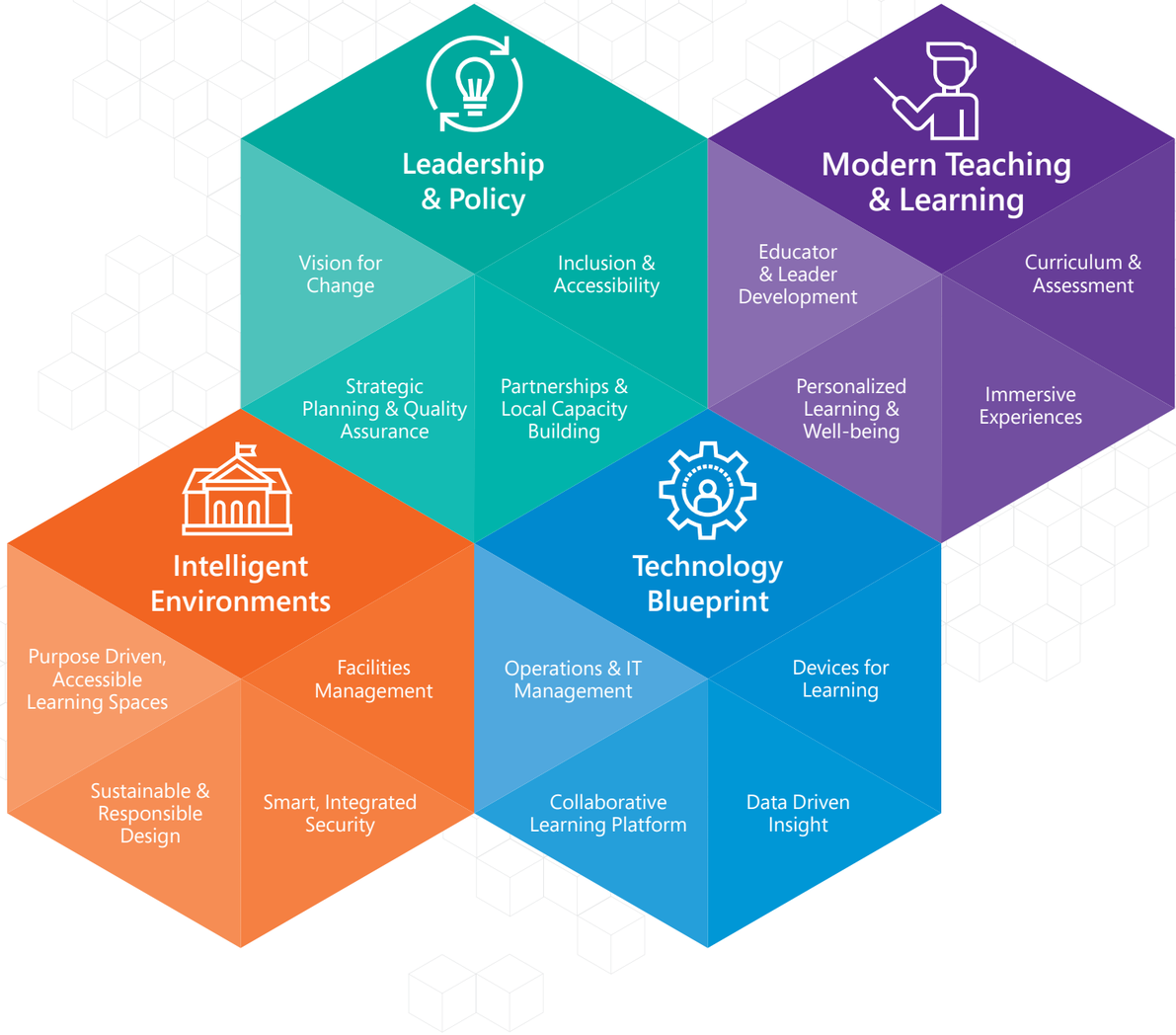
This paper examines one of the critical components of effective transformation in schools and education systems. Each paper is produced by an expert author, who presents a global perspective on their topic through current thinking and evidence from research and practice, as well as showcase examples. Together, the papers document the contributions of 'anytime, anywhere' approaches to K-12 learning and explore the potential of new technology for transforming learning outcomes for students and their communities.

Quality Assurance: Monitoring and Evaluation to Inform Practice and Leadership

This paper provides monitoring and evaluation guides and examples for leaders. Monitoring and evaluation is used by governments worldwide to improve school systems and educational results – and they can play an integral role in holistic education transformation.

Education leaders at all levels can benefit from applying the planning, monitoring and evaluation cycle and outcomes-based planning and evaluation to education transformation initiatives. Monitoring and evaluation can help educational transformation programs define and measure quality indicators and measures of the education transformation process, gauge progress toward desired educational outcomes, increase stakeholder participation, and empower school leaders and teachers to build and sustain transformation in schools.

As each educational system is unique, evaluators should be prepared to vary their evaluation approach based on program purpose and context. Technology is playing an increasingly important role in increasing data access, as well as a tool for school leaders and teachers to inform instruction and improve student outcomes in education transformation initiatives.



About the author

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Dr. Maria Langworthy's research focuses on how technology can accelerate learning and how education systems are transforming to meet the needs of 21st Century learners. Prior to joining Microsoft in 2016, Maria was the Senior Officer for Strategic Data, at the Bill and Melinda Gates Foundation where she developed progress measurement strategies for K-12 education. Previously, Maria served as the Global Director of New Measures for the New Pedagogies for Deep Learning project led by Michael Fullan. This international collaboration of education systems is working to implement competency-based approaches to teaching and learning.

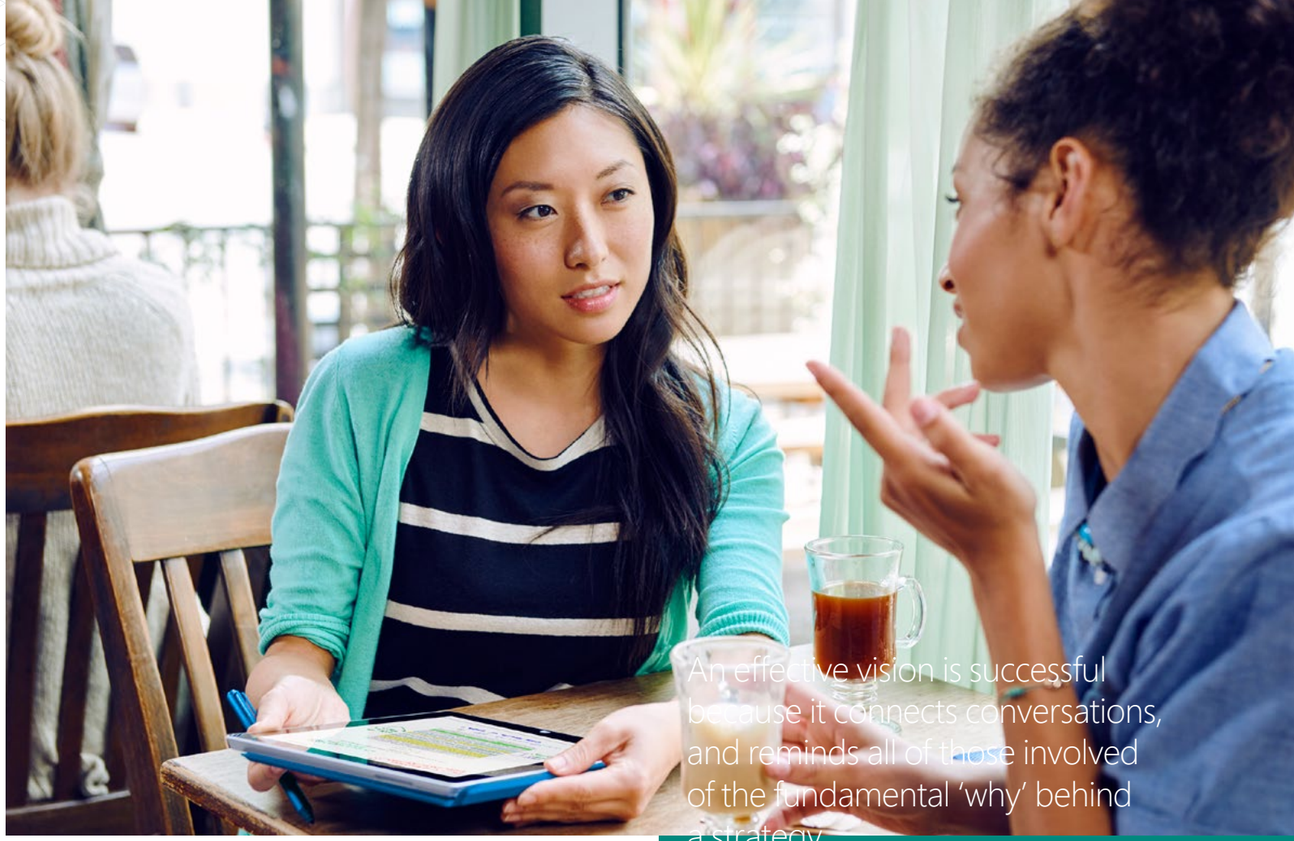
What is the Education Transformation Framework?

The Microsoft Education Transformation Framework helps fast track system-wide transformation by summarizing decades of quality research. It includes a library of supporting materials for transformation. This provides a short-cut to best practice, speeding up transformation and avoiding the mistakes of the past. Microsoft also offers technology architectures and collaborative workshops to suit your needs.

How clear is your vision?

One of the reasons for the improvement in workers' fortunes in the latter part of the Industrial Revolution was because schools were built to educate them – a dramatic change at the time. Now those schools themselves need to be changed, to foster the creativity that humans will need to set them apart from computers.

The Economist, 2014



The longer we delay, the more students we leave behind

All of us want a world where children grow up to flourish and live healthy, productive and fundamentally happy lives. Yet we live in a world where change is continuous, and the mix of ingredients needed for such lives shift as our societies and economies evolve. The digital era is radically democratizing not only information and knowledge, but the creation of new ideas and new knowledge. Our youth recognize these shifts, even if they are not introduced to them in school.[1] Some youth are already becoming collaborative creators – mostly on their own initiative – experiencing and using learning and knowledge in new and powerful ways. For them the future is one of tremendous opportunity and potential.

Vision design is the starting place for holistic transformation of education in a digital era.

However, too many young people are not catching this wind, especially as they traverse the path from schooling to adulthood. Far too many falter as they leave our educational institutions. They do not know how to take the initiative and harvest their aspirations. They seek modern jobs but do not have the experiences and competencies required to innovate and create value in today's world.[2] Youth unemployment is more than double total adult unemployment in many countries[3] – in some countries one in two young people are unemployed.

Just as the shift from agrarian to industrial ages caused massive social and economic disruptions, today's shift from the industrial age to the digital age challenges existing systems. The speed with which our schools respond to this critical instability may well determine how quickly our societies can lessen the pain of disruption and ignite its latent opportunities.[4]

1 Claxton, 2014
2 OECD, 2013
3 ILO, 2013
4 Sornette, 2009

A new learning paradigm starts with a vision

Anytime anywhere learning for all is one opportunity in this new era. It is an idea that harnesses growing evidence about how people learn and how to deeply engage people in the hard work and joyful play of learning.[5] It is a new system that relies on ubiquitous technology, but it is not about the technology. To capture its potential, however, requires that our schools and education systems design and implement new visions for the future of learning. No single vision for the future of learning fits all. Each school, system and culture needs a vision for anytime anywhere learning that is specific to its particular context. Whether a vision seeks deeper learning competencies, closing the equity gap, increasing student voice and aspirations, or other innovative goals for the future of learning, digital tools and resources can enable and significantly accelerate the achievement of those goals. The key is to lead vision design with clear goals for the future of learning.

This whitepaper addresses vision design, the starting place for holistic transformation of education in a digital era. A shared vision for holistic transformation of education matters because systemic change is so difficult. System change is complex because it touches on the perceptions, attitudes and everyday work of many stakeholders; involves the reallocation of fiscal and cultural resources; and disturbs the status quo.[6] Participants in the change process need a source of inspiration that nurtures and sustains their intrinsic energies, a source that focuses effort, aligns resources, and supports all those who participate in the change process.[7]

An effective vision is successful because it connects conversations and reminds all of those involved of the fundamental 'why' behind a strategy.[8] Inevitably, those involved in change will face troughs of despair and seemingly insurmountable barriers. Powerful visions, grounded in the real context of a unique school or education system, provide the motivational bridge and clarity of purpose required to make it through to the next stage of progress. The evidence and recommendations that follow illustrate how this kind of effective vision design is done.

5 Wolfe et al, 2013
6 Laloux and Wilber, 2014; Snowden et al, 2007
7 Merchant, 2014
8 Sinek, 2011

Could you foster a thinking school?

The evidence base

Schools and systems that successfully transform education begin their efforts with clear visions of what they want success to mean.[9] Vision design defines specific and concrete goals for learning and for the outcomes of schooling. Countries and regions such as Singapore, Finland, Ontario, and Shanghai that achieve some of the strongest outcomes on international assessments began their journeys with vision design. With such clarity of vision, these systems were able to create strategies that aligned leadership, pedagogical models, human and social capital, investments and policies to achieve those goals.[10]

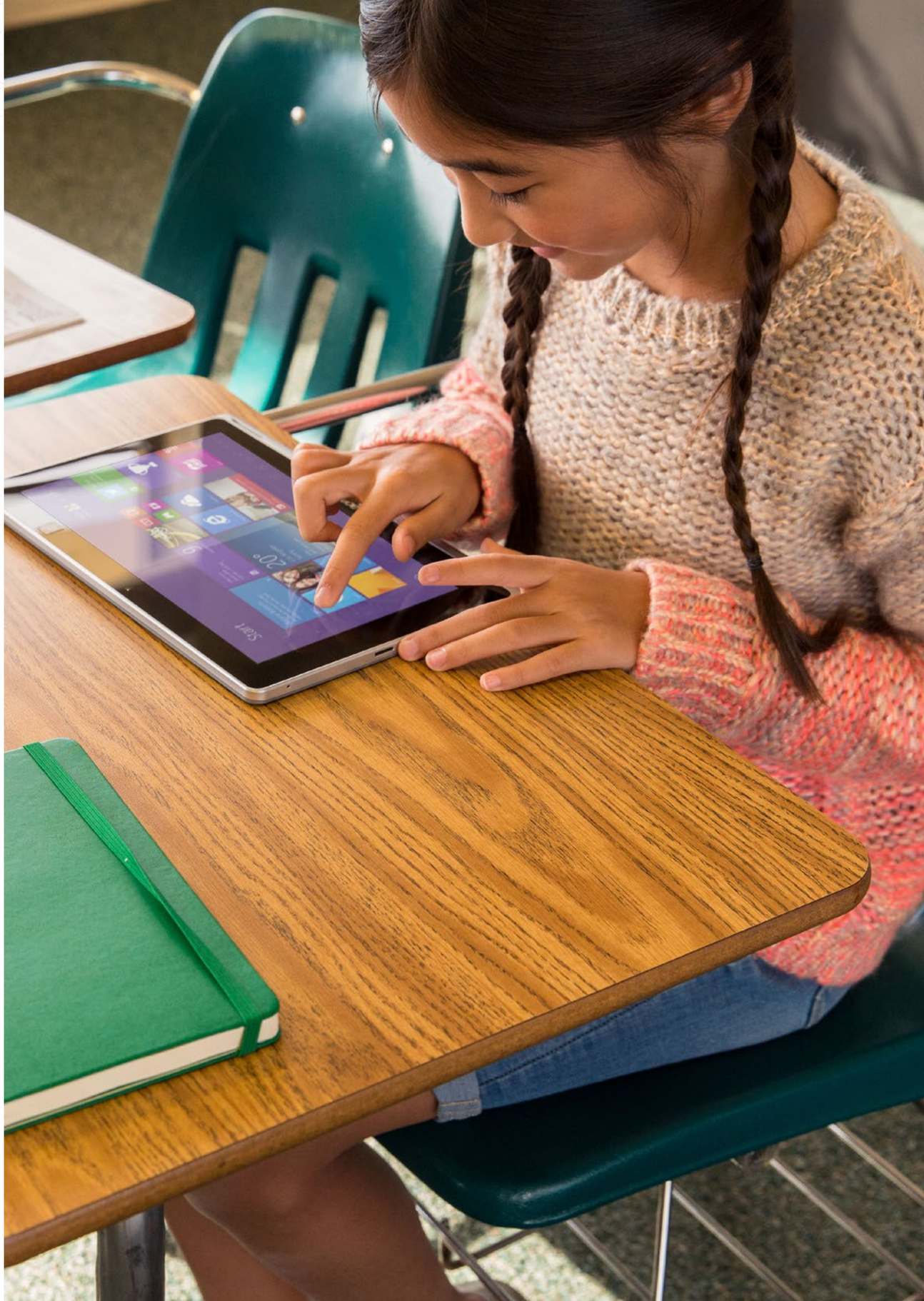
For Singapore, a new vision for learning was announced by the Prime Minister Goh Chok Tong in 1997. This vision, called "Thinking Schools, Learning Nation," explicitly focused on the needs of the country for the 21st Century and for a population of lifelong learners.

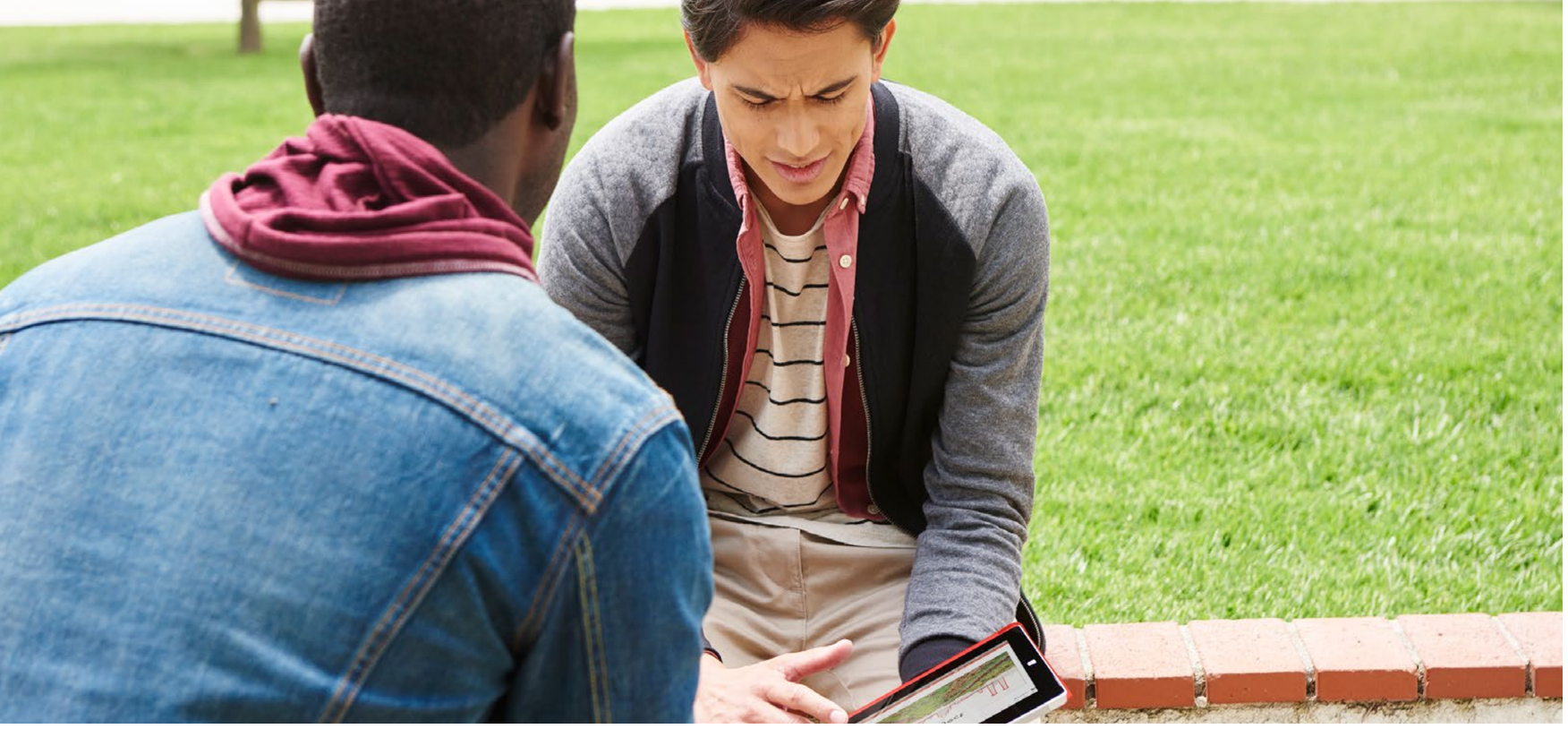
For instance, Cheung & Slavin completed a meta-analysis on computer-aided instruction. The results showed a positive (albeit modest) effect size compared to traditional instruction in K-12 mathematics classrooms.[11] Bernard et al.'s meta-analyses demonstrated that students in blended learning conditions exceeded students in traditional classroom environments by about one-third of a standard deviation.[12] Barrow, Markman & Rouse offered positive evidence for the use of a computer-based curriculum in supporting pre-algebra and algebra concepts to middle and high school students. Finally, Cavanaugh et al. provided evidence that K-12 online learning was just as effective – and in some cases, more effective – than traditional face-to-face schooling.[14]

Thinking schools will be learning organizations in every sense, constantly challenging assumptions, and seeking better ways of doing things through participation, creativity and innovation. Thinking Schools will be the cradle of thinking students, as well as thinking adults, and this spirit of learning should accompany our students even after they leave school.[15]

In the 1970s Finland's stakeholders coalesced around a vision for learning that focused on goals of equity and student well-being. In Ontario, the largest province in Canada, the change goals were simple: To increase literacy and numeracy in primary schools and to increase the graduation rate in high schools. In Shanghai, the vision focused on equity through improving the learning outcomes of low performing schools.[16] In each of these cases, visions were designed to achieve specific goals for learning.

9 Edwards, 2013; Project Red, 2013
10 OECD, 2012
11 Cheung & Slavin, 2013
12 Bernard et al.'s, 2014
13 Barrow, Markman, & Rouse, 2009
14 Cavanaugh et al, 2004
15 Ministry of Education, Singapore, 2014
16 Jensen and Farmer, 2013





Thinking schools will be learning organisations in every sense, constantly challenging assumptions, and seeking better ways of doing things through participation, creativity and innovation.

Using technology as a strategic lever

What was the role of technology in these successful change initiatives? In these contexts, digital access was not the end goal, learning was the goal and technology was a means used in some of the initiatives. A growing body of evidence suggests that technology in isolation is ineffective as a strategy for improving learning outcomes.[17]

Decades into the infusion with technology in education, it has become apparent that technology by itself is not an effective solution to the systemic challenges facing education today.[18] Instead, systems and schools that define their visions with clear goals for learning, and then use technology as an enabler and accelerator of progress, find the most success.

For example, in Singapore, technology has been seen as a key strategic lever for achieving the broader vision for learners. Technology has been consistently integrated with human capital and infrastructure strategies to advance this goal.[19]

In Shanghai, the equity goal has guided how technology has been integrated in schools.[20] For example, a key component of the overall Shanghai strategy focused on building teachers' pedagogical capacity. Technology was integrated in this capacity-building, including advanced uses of video analysis for pre-service training.[21]

In Ontario, school and district level efforts to develop anytime anywhere learning have a few clear goals for learning at the center, and focus first on capacity building among educators[22] and second on digital access after the pedagogical foundation is laid. In each of these cases, the overarching vision focusing on specific learning goals guided the "how" of technology integration for faster and more powerful results.

When digital tools serve in the purpose of a clear vision focused on specific learning goals, progress happens, and it happens more quickly.

17 Hattie, 2009; Higgins et al, 2012; Cuban, 2013
18 Fullan, 2011; Fullan and Langworthy, 2014
19 Towndrow and Vallance, 2013
20 Zhu et al, 2011
21 Wang, 2013
22 Jensen et al, 2011

Schools with visionary success

Among individual schools and small clusters of schools, the strongest success cases are seen where a clear vision for learning defines how technology is integrated. Evidence is growing that when digital tools serve in the purpose of a clear vision focused on specific learning goals, progress happens, and it happens more quickly than in the past.[23]

In Colombia, a small group of public schools began to use the "Fontan Relational Education" framework in 2005. This framework defines a clear vision for intensely personalized student learning and a specific pedagogical approach that supports this vision.[24] These "Fontan" schools were able to significantly improve student learning outcomes in 24 to 36 months. In the last few years, however, these schools have begun to implement anytime anywhere learning where every student has a digital device for learning and the schools have developed cloud-based applications and infrastructure to support the pedagogical model. The result is that improved learning outcomes were achieved in six months instead of two to three years. The learning goals drive how technology is incorporated in these schools.

In Colombia, a clear vision and framework improved student learning outcomes in six months, instead of two to three years.

In another example, the Aspirations Academies Trust in England includes a network of schools all focused on the vision of fostering students' aspirations through developing their sense of self-worth, engagement and purpose. These academies integration of technology is guided by this vision. An online application has been developed by the Quaglia Institute for Student Aspirations to support students in articulating and pursuing their aspirations, and then connecting their learning work every day to these aspirations.

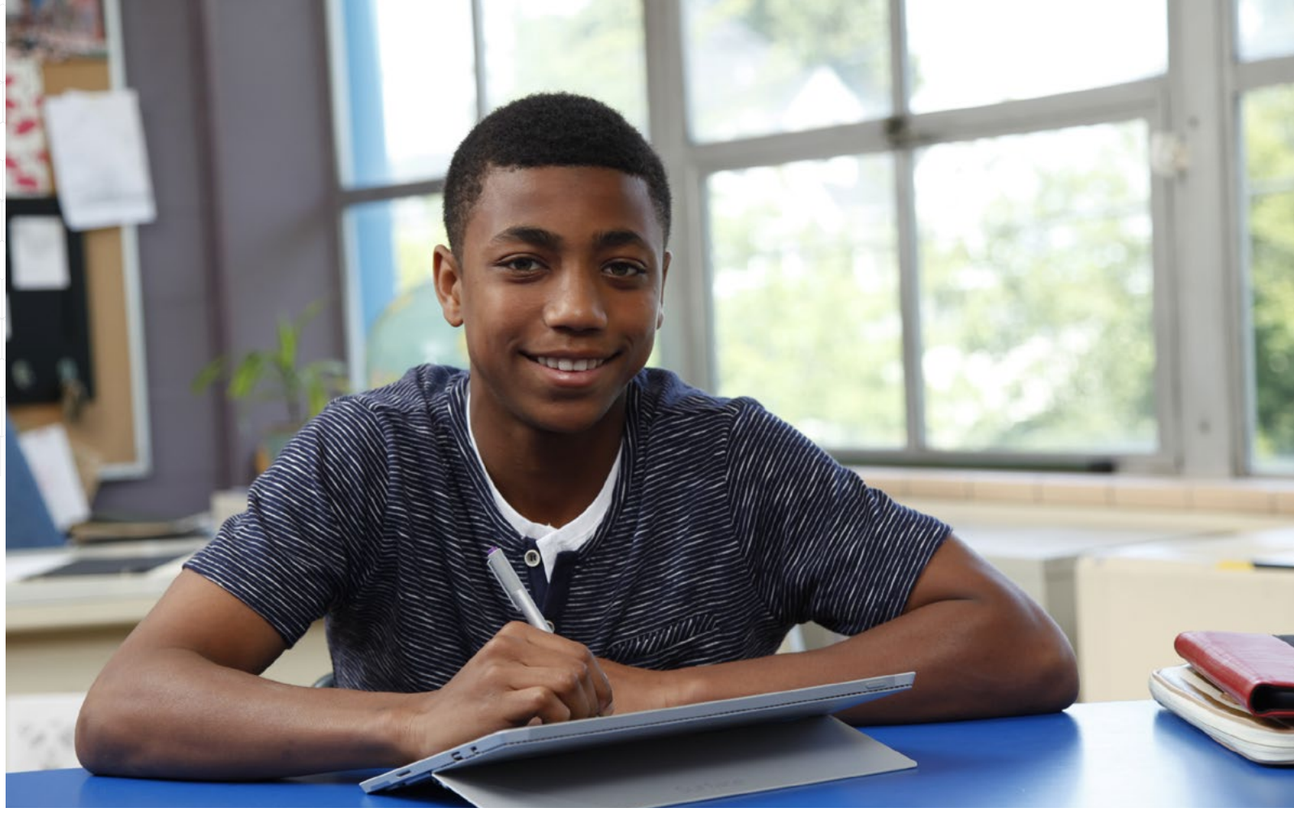
At the same time, teachers are equipped with digital tools aimed towards knowing their students more personally and developing their sense of belonging and voice. Again, the larger vision has informed how technology is used. These Academies are quickly seeing some of the highest learning achievements in England. For example, in one these academies, there was a 60% increase in students scoring top grades on national exams in one year's time.[25] Such examples also provide strong evidence that the deep and authentic engagement of students in the vision can be a powerful catalyst to progress.

23 Fullan and Langworthy, 2014
24 Twani and Fontan, 2012
25 Banbury, 2014

Step 1:

Define the vision

Successful visions meet up with the reality of an existing school or system, focusing on making it to the next stage of progress while sustaining inspiration for what is possible.



Recommendations for policy and practice

The importance of the vision design process lies not in the final articulation of the vision statement. It lies in being the first of many critical conversations about holistic education transformation. What matters most in the vision process is the deep collaboration of participants in establishing a common answer to the question: "Why is change needed?" Answers to this question most often center on what students need to thrive.

What matters most in the vision process is the deep collaboration of participants.

Answers will also shape conversations on the many 'how' questions that will follow during strategic planning, implementation, and monitoring progress. A shared vision becomes the collective intention of diverse stakeholders and serves as a compass to align individuals and groups' actions towards a common direction.

While every school and system will approach this question according to their own context and needs, the design of a holistic, collaborative, systemic and shared vision can involve three fairly simple and direct steps:

- Understand the context for change
- Define a small number of goals
- Ensure commitment from all stakeholders

Understand the context for change

Vision design begins with an assessment of where you are now and where stakeholders in your school or system want to go. This step should be as inclusive and open as possible, positioned as an opportunity to learn from everyone involved and to include their aspirations and ideas in answering "why is change needed?" This is the first critical step in developing a holistic, collaborative, systemic and shared vision, meaning it is the first opportunity to authentically engage all stakeholders in the process of shaping a vision.

Having too ambitious or idealistic a vision can become a path to failure, especially if not all stakeholders are committed it. Successful visions meet up with the reality of an existing school or system, focusing on making it to the next stage of progress while sustaining inspiration for what is possible. It may be important to achieve intermediary goals through cycles of initial goals, strategy development, implementation, and reflection on progress, and then moving on to more ambitious goals. While visions can and should be expansive and aspirational, a broad review of the current state of the system can provide the crucial bridge between the reality of today and authentic progress.

At the same time, during this step in the vision process stakeholders can be introduced to ideas and examples of what it is possible for students to achieve and be able to do. Sharing data and examples from other schools and systems can inspire new aspirations. Understanding the context is more than just the immediate reality – it is also what other schools and systems are doing and how they are innovating.

Once key exemplars are identified, these should be shared with a wide variety of stakeholders to expand everyone's thinking.

Every student and school will ultimately connect with a new vision in relation to its existing culture - its culture of leadership, of professionalism and peer collaboration (or its absence), and of student engagement (or disengagement).

Students are and will always be the most important stakeholders in school change efforts: Including their perspectives is critical.

Find the broadest possible perspective

Assessing the current context should include data sources and evidence on culture as well as resources and outcomes. Such data can include information already collected on students' achievement, engagement, and expectations as well as their attitudes, perceptions and behaviors. Students are and will always be the most important stakeholders in school change efforts: Including their perspectives is critical.

The perceptions, expectations and engagement of families; teachers' perceptions, expectations and pedagogical capacities; leadership capacities; the effectiveness of professional learning programs for teachers and leaders; the quality and scope of current assessment practices; school climate and culture; the quality and scope of physical, communications and technology infrastructure, including data privacy, security and digital citizenship policies; financial resources; community partnerships, especially workforce needs; and the alignment of curriculum and standards with new learning goals – all can provide insights to shape a successful vision.

Inputs to learning should be captured as well as the outcomes of schooling.[26] All of this information should be synthesized to establish an integrated picture of the current context. Guiding the analysis should be central questions such as "where are the strengths and weaknesses in the system today?" and "what are the barriers to progress?" Most importantly, the analysis of the context should be shared back with all stakeholders to continue the cycle of inclusion in the vision design process.

26 Cavanaugh et al, 2011

Step 2:

Set the goalposts

The goals should address both where a system is now, and focus attention on reaching the next stage of progress unique to that system's context.

Define a small number of goals for success

The first step of understanding the context informs the development of goals for change. Defining goals serves a specific purpose in holistic transformation – it establishes a common direction among diverse parties as they undertake a complex set of strategic activities across a variety of levels of an education system. Thus, the goals should be few: too many goals diminish clarity of purpose. Indeed, those organizations that have only one core goal often have the most powerful visions.[27] The process of defining the goals should be a shared process that speaks to key stakeholders' perceptions of the context and aspirations for the future.

> The key to system-wide success is to situate the energy of educators and students as the central drivingforce. This means aligning the goals of reform and the intrinsic motivation of participants.
>
> Fullan, 2011

Increasing evidence on successful change in 21st Century organizations shows that all key stakeholders – in this case, students, teachers, leaders, families and community partners – need to participate in vision development, not just the leadership.[28] Without shared commitment to common goals by all parties, the vision will not harness deep allegiance.

The goals for a school or system's vision should directly connect with the specific context. An international analysis of education systems that have achieved "significant, sustained and widespread gains in student outcomes" by McKinsey and Company showed that education systems which achieved the most progress defined different goals at different stages of their development.[29]

For those schools or systems at earlier stages, goals that focused on fundamental improvements to literacy and math achieved the most progress. For systems further along, goals that focused on advancing learning through developing stronger organizations and the pedagogical capacities of educators who could propel new learning outcomes for students. For systems making progress towards the highest levels of excellence, goals focused on teachers' peer-based learning and research on the impacts of new teaching practices to develop advanced pedagogical capacities for students' deeper learning competencies.

The point here is simply that the goals should address both where a system is now, and focus attention on reaching the next stage of progress unique to that system's context. The goals should provide the directional vision to help synthesize and orient the strategies of diverse participants in the change, while setting high and realistic expectations for success.[30]

27 Sinek, 2011
28 Merchant, 2014; Cameron and Quinn, 2011
29 Mourshed et al, 2010
30 Fullan and Langworthy, 2014; Jensen and Sonnemann, 2014

Step 3:

Refine and commit

Vision design and the change cycle should be a dynamic between defining a vision, strategic planning, implementation, and reflections on progress.

Ensure commitment from all stakeholders

This third step completes the cycle of inclusion in the vision design process. It requires sharing the goals back with key stakeholders before beginning the hard work of strategic planning for how the vision will be achieved. This step can require little time if the previous two steps have been inclusive. Validation of goals by stakeholders is critical to ensuring a common interpretation and a shared commitment to the vision. Ideally, this involves not just publishing the vision statement, but a round of open conversations with each stakeholder group. If the vision statement and goals are met with superficial acceptance or resistance, it is much less costly in the long run to revisit them at this stage, than to attempt to implement a new vision in a culture of low commitment and trust.

This cycle ensures a shared vision will guide conversations around how the vision will be achieved. Key 'how' conversations include those around how to develop leadership and educator capacity,[31] and how to measure and monitor progress to learn from the work, which may require the development of new standards and methods at all layers of schools and systems.[32]

Match the right technology to your vision

Another key conversation is on the role of technology. Digital tools can help to connect the learning goals defined by the vision – the 'why' -- with all the stages of a change process – from strategic planning through implementation and monitoring progress. It can ensure that the purpose at the heart of the vision becomes realized potential. Implementing change successfully is led by a clear vision for the future of learning, and leverages technology to enable and accelerate that learning vision.

When digital tools and resources become pervasive in learning organizations, they become indispensable keys to sustained progress and continuous innovation. Leveraging the power of technology fully means intentional layering of digital tools and resources into learning systems, such as through databases that measure individual learners' progress and make it more visible to teachers, leaders, families and to the students themselves; through digital resources that allow adaptive learning content to be deeply personalized; through adaptive, formative feedback for learning through games and applications; through blended learning; through technologies that make learning more accessible to students with a wide range of disabilities and impairments; through ePortfolio systems that allow richer, more non-standardized learning tasks and assessments; or through connecting students globally to collaborate on rich problem-solving tasks.[33] When technology becomes intelligently pervasive within a school or a system, anytime anywhere learning becomes a reality.

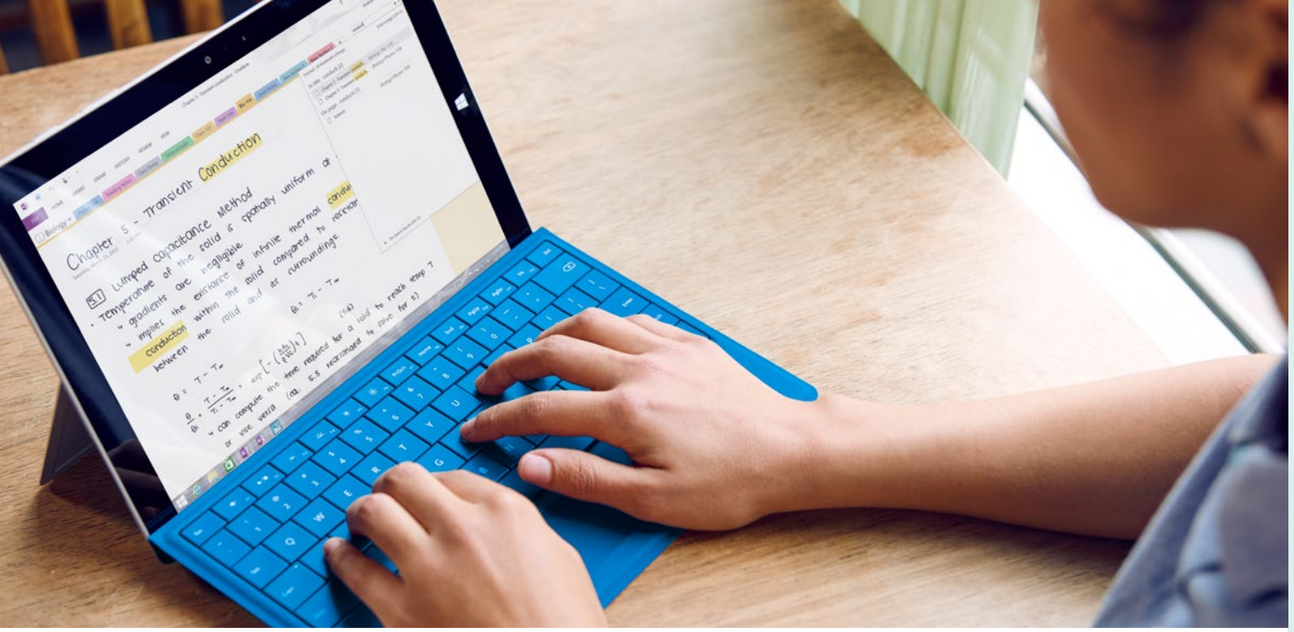
Finetune your vision through ongoing inquiry

Vision design and the change cycle should be a dynamic between defining a vision, strategic planning, implementation, and reflections on progress. It is an ongoing collaborative inquiry cycle with digital resources accelerating and empowering the achievement of holistic transformation of education systems.[34]

Education systems around the world are embarking on these efforts through networks such as the New Pedagogies for Deep Learning Global Partnership.

Anytime, anywhere learning for all is a human vision, not a technology project. As every student gains access to digital tools and learning resources, it opens up opportunities for learning, for collaboration, for knowledge and for creativity that truly prepares youth for flourishing futures. But that potential is far too often unreached because of a lack of shared and holistic vision. A strong vision for the future of learning ignites the potential, and once it is lit, momentum towards anytime anywhere learning is unstoppable.

31 Shear, Gallagher & Patel, 2011
32 ATC21S, 2014; Cavanaugh et al, 2011; UNESCO and Microsoft, 2011; Immel, 2011
33 Cavanaugh, 2014; Vander Ark and Schneider, 2014; Luckin et al, 2012
34 Fullan and Langworthy, 2013



Developing your own change strategy

Guiding Questions for a Developing a Vision

- What does an innovative school look like here?
- What does the experience of a modern learning environment or smart classroom look like here?
- What does a modern teacher/ student do here?
- What educational philosophies and learning pedagogies are required or need to be enabled for a modern learning community?
- What framework/process will be used to create a vision?
- How will we define and communicate the vision?
- Who will and how will our vision be driven?
- How will we fund the vision?
- What is the scope or roadmap of the vision?
- What political, cultural, social or religious requirements can/will impact/limit the vision and scope?
- How much involvement is required from the key stakeholders?

Technologies schools can use to support change

This paper acknowledges that after decades of using IT in schools, technology by itself is not an effective solution to the systemic challenges facing education today. Instead, organizations that define their visions with clear goals for learning, and then use technology as an enabler and accelerator of progress, find the most success. Microsoft technologies can support visions for anytime anywhere learning for all in many ways.

- Connecting students to each other and a world of learning through Skype In the Classroom and Office 365 for Education
- Providing students with personalized online learning spaces for e-portfolios, project assignments and group collaboration – Office 365 for Education with OneNote, Microsoft Teams
- Measuring success through Analytics – Cortana Analytics Suite and Power BI.

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