

Building Leader and Educator Capacity for Transformation

Transformation Framework

Microsoft in Education

About this series

The Microsoft in Education Transformation Framework is a guide for educators and leaders engaged in holistic education transformation. The critical conversations needed for effective transformation of education systems are the focus of this paper series. Each expert author presents a global perspective on the topic through the current thinking and evidence from research and practice, as well as showcase examples. Specifically, 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.



Microsoft in Education Transformation Framework Papers

- Transforming Learning Environments for Anytime, Anywhere Learning for All
- Vision for Anytime Anywhere Learning for All
- Enabling Transformation with Strategic Planning, Organizational Capacity, and Sustainability
- Quality Assurance: Monitoring and Evaluation to Inform Practice and Leadership
- Inclusion: Equitable Access and Accessibility
- Public, Private, and Community Partnerships for Employability
- Curriculum, Content, and Assessment for the Real World
- Personalized Learning for Global Citizens
- Learning Communities and Support
- Building Leader and Educator Capacity for Transformation
- Designing Technology for Efficient and Effective Schools

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Summary

Highly effective teachers continually assess student progress and how their teaching should change to improve it based on their practical experience and ability to adopt and adapt a range of techniques to innovate and meet the needs of every student. A key question for policy makers is how to build the capacity of educators and leaders to continuously learn, innovate and improve what they do. This paper outlines the evidence on what works in building teacher capacity and describes best practice in leadership development. It outlines what the system can do to promote effective capacity building, taking into account different levels of system performance. Building teacher and leader capacity for 1:1 initiatives is a multi-dimensional task. Evidence suggests that a key lesson of recent 1:1 learning initiatives involves a focus to teaching and learning processes beyond the technology itself. Teacher professional learning and collaboration are key drivers of the success of 1:1 learning initiatives. Innovation supported by 1:1 learning initiatives improves learning and motivation, teacher professional development, and partnerships with the community. Similarly, building leader capacity for 1:1 initiatives involves creating a shared vision for education and the role of technology at the system level. Leadership should consider classroom, school, district, and home factors, including policies and conditions that may enable or inhibit program success.

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Building School Capacity for Innovation

Highly effective teachers continually assess student progress and how their teaching should change to improve it. This is no simple task, and the complexity is often underestimated by those outside the education sector. Teachers require much practical experience and an ability to adopt and adapt a range of techniques to innovate and meet the needs of every student presented before them.

A key question then for policy makers is how to build the capacity of educators and leaders to continuously learn, innovate and improve what they do. Section 1 outlines the evidence on what works in building teacher capacity and Section 2 describes best practice in leadership development. Section 3 then outlines what the system can do to promote effective capacity building, taking into account different levels of system performance.

Building Teacher Capacity

Investing in teacher effectiveness is key to improving student learning. The impact of teacher quality outweighs the impact of any other school education program or policy. In fact, teacher effectiveness is the largest factor influencing student outcomes, outside of family background.¹

Teacher capacity is influenced at two distinct stages. The first is during initial teacher education, and the second is over the course of a teacher's career (referred to in this paper as 'professional learning'). Top performing education systems invest heavily in initial teacher education to ensure graduates are well prepared by the time they enter the classroom. Newly qualified teachers then engage in intensive on-the-job training in their first year of work to cement core skills and competencies. Professional learning remains important throughout teachers' careers so that they can continually improve and spread good practice to others.

¹ Aaronson et al., 2007; Jordan et al., 1997.

Initial Teacher Education – When is it Effective?

The quality of initial teacher education is an issue across many countries. Often theory and practice are not sufficiently integrated, thus not guaranteeing sufficient skill levels of teaching graduates entering schools.² Many teachers receive little preparation for the practical realities of how to manage a classroom.

Singapore is well known for its outstanding approach to teacher preparation. Theory, practice and system objectives are all closely aligned through a unique tripartite relationship between the Ministry of Education, the National Institute of Education (NIE) and schools.³ The NIE is the single university providing initial teacher education, and incentives for academics (research funding and career progression) are closely tied to the objectives for school education set by the Ministry. There are strong links between NIE, the Ministry and schools to ensure that practicums are relevant and useful for teacher candidates. Ultimately, feedback loops between all three layers result in effective quality-control that translates into continual improvement of initial teacher training.

Teacher Professional Learning - When is it Effective?

Despite significant investments world-wide, the vast majority of professional learning has little impact. Few teachers report professional learning as useful.⁴ However when it is done well, professional learning can significantly improve student learning.⁵

Fundamentally teachers need to have a learning mindset for any professional learning program to be effective. That is, they need to have the skills and incentives to continually assess student progress, how teaching needs to change, and then to apply new ways of working.⁶ This cycle of teacher learning and inquiry is iterative.

“Through the Partners in Learning program and Microsoft-initiated webinars, we are able to expose our teachers to a wide range of resources and professional development opportunities. In the classroom, Microsoft solutions support the pedagogy used by our teachers.”

Adrian Lim, Principal,
Ngee Ann Secondary School,
Singapore
[Read more!](#)



² OECD, 2014.

³ National Institute of Education (2009)

⁴ Linda Darling Hammond et al (2009)

⁵ Timperley et al (2007)

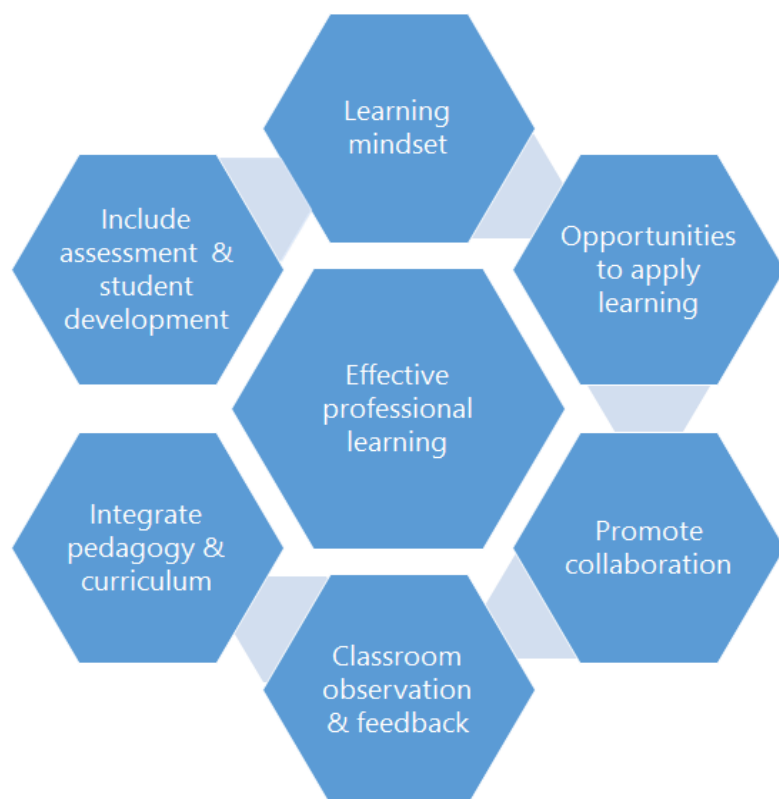
⁶ Timperley et al (2007), Cole (2012), Darling Hammond et al (2009)

Effective professional learning programs have a number of key elements. They should address practical problems faced by teachers, with opportunities to transfer what has been learnt into the classroom. As adults often learn iteratively (they need to see evidence of something working several times before changing practice), there should be multiple opportunities to apply new ways of working over a sustained period of time.⁷

Professional learning is also more likely to be effective when it promotes collaboration with peers, classroom observation, and teacher feedback on the job; all known to have a large positive impact teaching practice.⁸

The content of professional learning programs matters.⁹ Programs should integrate pedagogical content knowledge (e.g. maths teaching approaches), assessment information, and how students learn particular curricula. Knowledge of students and their developmental progressions is critical. For teachers in mobile and cloud learning environments, technological pedagogical content knowledge should be included.

Learn more about professional learning communities in our whitepaper titled *Learning Communities with Support: Building and Implementing Communities of Practice* by Christopher Sessums



⁷ Timperley (2007), Cole (2012), Darling Hammond et al (2009)

⁸ Hattie (2009)

⁹Timperley (2007)

How Top Performing Systems Develop their Teachers

Top performing systems often have an intensive focus on school-based training, for example mentoring and collaborative working groups in the school.¹⁰ These programs tend to promote discussions on student learning directly relevant to teachers every day work, with regular feedback and opportunities to learn from peers.¹¹ Such activities help strength the teacher's learning mindset to continuously improve their core work of teaching and learning. School based programs in top performing systems often involve the following;

- Teacher mentoring and coaching that is intensive and involves regular classroom observation and feedback.¹² Effective mentoring and coaching help teachers diagnose students learning needs, and develop classroom management skills and pedagogy specific to their subjects.¹³
- Lesson and grade groups, in which teachers work together to plan lessons, examine student progress, and discuss alternative approaches. Teachers improve by observing each other's classrooms, identifying and solving problems as they arise, and jointly improving each student's learning.¹⁴ Working and learning together also helps to develop leadership skills and prevent stress and burnout.¹⁵
- Research groups of teachers identify a research topic (how to introduce a new pedagogy, for example) and analyse the evidence of what works and what doesn't. Teachers then trial the practices that are shown to work and evaluate their impact on students. If their impact is positive, they become part of learning and teaching across the school. The process helps teachers to evaluate their own teaching, and to discover how they should change their teaching to benefit students.
- Teacher appraisal and feedback can have significant improvements in learning. Meaningful feedback helps teachers improve their teaching skills by identifying and developing specific aspects of their teaching. It improves the way they relate to students and colleagues and their job satisfaction, and has a large impact on student outcomes.¹⁶ Appraisal and feedback is known to improve teachers' understanding of their teaching methods, teaching practices and student learning.¹⁷

¹⁰ Barber and Mourshed (2007); OECD (2010)

¹¹ Barber and Mourshed (2007); Fuchs and Fuchs (1985); Fuchs and Fuchs (1986); Hattie (2009); Jacob and Lefgren (2008); Gates Foundation (2010)

¹² Smith and Ingersoll (2004)

¹³ Barber and Mourshed (2007); OECD (2010)

¹⁴ Bolam, et al. (2005); Elmore (2004)

¹⁵ Sargent and Hannum (2009), Phillips (2003); OECD (2009)

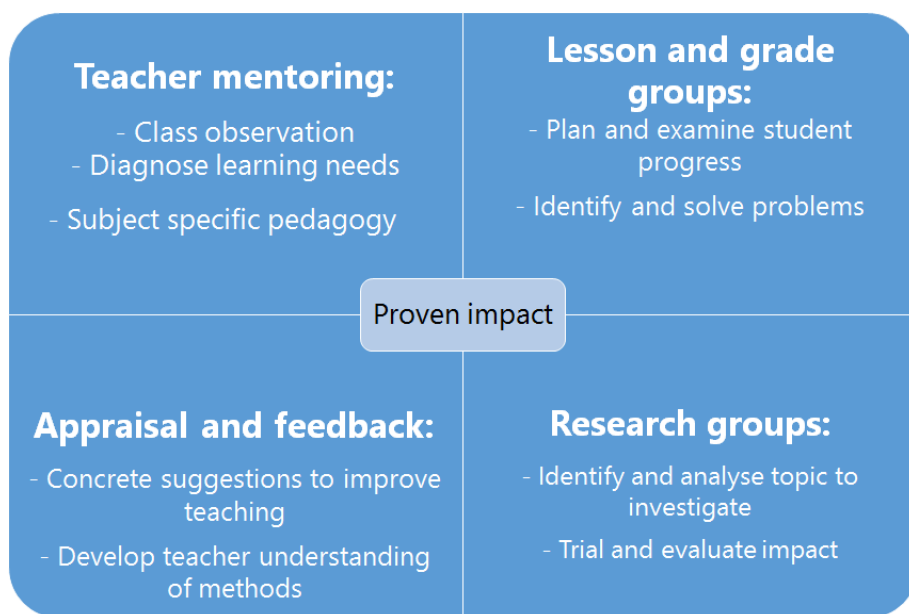
¹⁶ Wade (1984); Hattie (2009)

¹⁷ Wade (1984); Hattie (2009)

How school based programs are implemented is a key determinant of their success. For example, while most countries have mentoring programs, some operate better than others.¹⁸

What is common across top performing systems is the practices these programs get working in schools, that is; collaboration and feedback, inquiry based teaching, discussions on subject specific pedagogy, and assessment and curricula that directly relate to students in the school.

In addition to school based training, external seminars and courses play an important role in teacher development. They can address system wide needs in a coordinated manner as well as spread good practice across schools. External courses can aide top-down policy implementation, for example how to implement new government policies and reforms in schools. It can also aide bottom-up capacity building, where experts or teachers share pockets of excellent practice across the sector. These forms of professional learning should be considered in programs to build capacity for new learning environments where the vision may be articulated by leaders and effective teaching practices develop among teachers.



¹⁸ OECD, 2014.

Leadership Development

School leaders are increasingly viewed as the key to education reform and improving student outcomes.¹⁹ Increased autonomy and decentralisation has meant that principals are required to take on a broader range of responsibilities.²⁰ Instructional leadership emerged in the 1970s and 1980s as part of the effective schools movement.²¹ It increased the responsibilities of the principal to include working closely with their teachers to coordinate school and classroom based strategies aimed at improving teaching and learning.²² Emphasis was placed on promoting and participating in teacher learning and development; establishing teaching and learning goals and expectations; and, curriculum planning and coordination.²³ Transformational leadership theories extended thinking and focused on goal setting and ensuring that teachers had the time and energy to work towards these goals.²⁴

The dominant belief in the effectiveness of instructional leadership is not shared by all. Fullan has been critical of encouraging principals to focus purely on instructional leadership. He notes that while principals should be knowledgeable and partially involved in instruction, they need to avoid micromanaging their staff.²⁵ DuFour and Marzano note that “time devoted to building the capacity of teachers to work in teams is far better spent than time devoted to observing individual teachers”.²⁶ Some argue that the evidence instead supports a shift towards ‘learning leaders’. Hattie notes that while instructional leaders look at what is taught, learning leaders emphasize how information is taught and how we know it was taught well.²⁷ A learning leader focuses on what their teachers know and educating them in their craft so that they can better educate their students. They use data to assess how their students and teachers are performing and create a collegial environment where teachers trust that they can learn from one another.²⁸

The OECD suggests that the role of the school leader consists of four main responsibilities.

- **Supporting, evaluating and developing teacher quality;**
- **Setting learning objectives and implementing intelligent assessment systems;**
- **Strategic use of resources and their alignment with teaching purposes and;**
- **School leadership beyond the school borders.**²⁹

¹⁹ Marzano, Waters & McNulty (2005)

²⁰ OECD (2009)

²¹ Hallinger (2005)

²² Hallinger & Murphy (2012)

²³ Robinson, Lloyd & Rowe (2008)

²⁴ Caldwell & Spinks (2014).

²⁵ Fullan (2014)

²⁶ DuFour & Marzano (2009)

²⁷ Hattie (2012)

²⁸ Ibid; OECD (2013).

²⁹ Pont, Nusche & Moorman (2008)

The first two responsibilities are consistent with the principal's role as an instructional or learning leader. The third responsibility "strategic use of resources" includes operational activities consistent with the managerial role. The fourth point is a recent addition, "school leadership beyond the school", which highlights the importance of building relationships with other schools and the community.

Due to the expanded role of the principal, distributed leadership – where several individuals share leadership responsibilities – can result in improved organisation performance.³⁰

How School Leaders are Effectively Developed

Internationally most school systems provide support for new school leaders but this is a relatively new trend.³¹ This young industry is still trying many new approaches, content foci, and modes of program delivery.³² This can include anything from established courses, formal training sessions, mentoring programs, to, more recently, leadership networks.

While there have been a number of significant changes to school leadership development in many countries, increased school autonomy and reliance on school networks in recent years has changed thinking in leadership development. This included a shift in thinking from increasing the organisational capacity of autonomous schools to one that views school leaders as the engine of growth for the system. Hence, issues such as school leader recruitment, deployment and quality assurance of their development was viewed as key levers for developing system leadership.³³

In contrast to networks, some more traditional courses are being expanded and increasingly contextualized based on theories of enhanced adult learning. In New York, potential leaders are required to complete leadership projects as part of their training. In Singapore, a considerable portion of their leadership training requires potential school principals to develop plans for specific schools 20 years from now.

³⁰ Leithwood et al (2004), Leithwood et al (2007)

³¹ Bush, 2008; Lumby et al., 2009.

³² Hallinger & Lu, 2013.

³³ Mathews, P. et al, 2011.

Participants must spend considerable time in the schools, identifying their needs and how they can improve.³⁴ This allows them to engage with what they are learning in formal training programs and obtain leadership experience within their school prior to being formally promoted. Additionally, administrative training focusing on processes which are critical to school performance (e.g., timetabling, legal requirements, budgeting) is becoming as popular as traditional leadership workshops.

In Singapore, a unique approach is taken to leadership training. It begins well before a candidate has taken on the role of principal. From early on in their careers, teachers progress along different career tracks, one of which is a leadership track. Potential leaders are identified through Singapore's, extensive appraisal system, the Enhanced Performance Management Scheme (EMPS) and then placed in mentoring and development programs. Candidates are given ample opportunities to interact and learn from senior management at their school and then ultimately undertake specific leadership training at the National Institute of Education (NIE).³⁵

A range of system policies impact teacher and leader capacity aside from the obvious in the provision of professional learning program. Whether teachers *want* to engage with training is likely to be influenced by a range of other factors; how it links to appraisal, recognition, promotion and other incentives, the time available, the support they receive on the ground to do it, and principal attitudes to its importance.

Principal behaviour to staff development is also likely to be influenced by other factors such as school accountability and reporting arrangements, as well as how staff development links to their own appraisal, promotion and recognition. The effectiveness of any education system depends on the interaction of all its different parts.

³⁴ Pak Tee Ng, 2013.

³⁵ Jensen (2011)

Teacher and Leader Capacity for 1:1 Initiatives

Building teacher and leader capacity for 1:1 initiatives is a multi-dimensional task. Evidence collected by the European Union's Institute for Prospective Technological Studies (IPTS) suggests that a key lesson of recent 1:1 learning initiatives in Europe involves devoting a laser-like focus to teaching and learning processes beyond the technology itself. Teacher professional learning and collaboration are key drivers of the success of 1:1 learning initiatives. And, even though adoption of 1:1 initiatives varies across systems, and within systems, innovation supported by 1:1 learning initiatives improves learning and motivation, teacher professional development, and partnerships with the community. One example of this is the New York City Department of Education's School of One initiative which uses an intelligent learning/assessment system coupled with powerful algorithms to create customized "playlists" for each student based on ongoing evaluations of student needs. The program adopts a student-centred learning paradigm that allows the teacher to be part of a larger team that collaborates to assess student needs and make appropriate teaching and learning decisions on a daily basis.

Similarly, building leader capacity for 1:1 initiatives involves creating a shared vision for education and the role of technology at the system level. Leadership should consider "classroom, school, district, and home factors, including policies and conditions that may enable or inhibit program success" (Cavanaugh, Maor, McCarthy, 2014). For example, the *Netbooks on the Rise* report by European Schoolnet identified thirty-three 1:1 initiatives in 18 EU countries. The culmination of these experiences resulted in policy goals and frameworks that helped align resources with classroom practice. In particular, objectives of these initiatives were informed by two phases of implementation. The first phase focused on the distribution of devices and other equipment, and to reduce the digital divide by promoting e-inclusion. The second phase focused on pedagogical change, innovative curricular changes and learning dynamics, and expanding learning opportunities outside of the classroom.

It is important to note that in order for 1:1 learning initiatives to realize their full potential requires a holistic learning mindset where teachers and leadership engage in professional learning opportunities that foster collaboration, feedback, and teamwork.

School leader responsibility	
Supporting, evaluating and developing teacher quality	Victoria, Australia: policies support team-based professional learning that includes teacher observation of each other's practice and providing peer-to-peer feedback based on criteria
Setting learning objectives and implementing intelligent assessment systems	New York City: school leaders support "School of One" intelligent, personalised learning tool implementation
Strategic use of resources and their alignment with teaching purposes	Maine and Florida: state and local leaders of 1:1 programs aligned professional learning, digital content and pedagogy with new learning environments
School leadership beyond borders	UAE Smart Learning programme leaders are expected to learn from international examples and to share success broadly

Guiding Questions for Building Leader and Educator Capacity

- How engaging and motivating is the working environment?
- How would you describe the Continuous Professional Development (CPD) opportunities?
- Does the CPD provide embedded professional development experiences for leaders and staff?
- Is a culture of innovation enabled, supported and celebrated?
- What training and professional learning will be delivered?
- Does it support personalization of teachers?
- Does the support cover administrative, technical, faculty based, pedagogical and leadership?
- By whom, for whom (students, teachers, parents, administrators), where, when and how often will these opportunities for professional learning be available?
- Will the opportunities be face to face, online and/or blended?
- What incentives, certificates, links to university course credits, financial return will be available?
- How does policy enable or inhibit desired professional learning approaches?
- How will change management occur and who will manage the transition?

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