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Choosing the wrong drivers for whole system reform

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204

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Introducing the drivers for whole system reform

'Whole system reform' is the name of the game and 'drivers' are those policy and strategy levers that have the least and best chance of **driving** successful reform. A 'wrong driver' then is a deliberate policy force that has little chance of achieving the desired result, while a 'right driver' is one that ends up achieving better measurable results for students. Whole system reform is just that – 100 per cent of the system – a whole state, province, region or entire country. This paper examines those drivers typically chosen by leaders to accomplish reform, critiques their inadequacy, and offers an alternative set of drivers that have been proven to be more effective at accomplishing the desired goal, which I express as

> … the moral imperative of raising the bar (for all students) and closing the gap (for lower performing groups) relative to higher order skills and competencies required to be successful world citizens.

As an advance organiser I suggest four criteria – all of which must be met in concert – which should be used for judging the likely effectiveness of a driver or set of drivers. Specifically, do the drivers, sooner than later,

1. foster intrinsic motivation of teachers and students;
2. engage educators and students in continuous improvement of instruction and learning;
3. inspire collective or team work; and
4. affect all teachers and students – 100 per cent?

A 'wrong driver' is a deliberate policy force that has little chance of achieving the desired result, while a 'right driver' is one that ends up achieving better measurable results for students.

Thus **intrinsic motivation, instructional improvement, teamwork**, and **'allness'** are the crucial elements for whole system reform. Many systems not only fail to feature these components but choose drivers that actually make matters worse.

The key to system-wide success is to situate the energy of educators and students as the central driving force. This means aligning the goals of reform and the intrinsic motivation of participants. Intrinsic energy derives from doing something well that is important to you and to those with whom you are working. Thus policies and strategies must generate the very conditions that make intrinsic motivation flourish. This is as basic as the human condition. After minimal needs are met what turns most people on is being effective at something that is personally meaningful, and which makes a contribution to others as well as to society as a whole. Personal contributions are all the more gratifying when they are part of a team effort melding personal and social goals. Policies and strategies that do not foster such strong intrinsic motivation across the whole system cannot be a source of whole system reform. Furthermore, strategies that do not develop increased capability (the skills to do something well) are similarly destined to failure. In other words, both strong motivation and enhanced skills on a very large scale are required.

The interest in whole system reform has been fueled recently by better analyses of how different countries are faring in international benchmark comparisons. OECD's Programme for International Student Assessment (PISA) 2009 results received the strongest media coverage ever as it released its latest results on 7 December 2010 (OECD, 2010a). At the same time McKinsey and Company published its insightful analysis of how 'improved school systems keep getting better' (Mourshed et al, 2010). The McKinsey report examined 20 entities (countries or sub-regions of countries) including developing countries going from 'poor to fair', 'fair to good', 'good to great', and 'great to excellent'.

The right drivers are effective because they work directly on changing the culture.

In both the PISA and McKinsey reports the top five countries in literacy, science and mathematics are Korea, Finland, Hong Kong, Singapore and Canada (Shanghai scored best on literacy but is not a country, and is likely not to be very representative of China as a whole). In this paper I use the United States and Australia as examples. Both countries have recently launched ambitious national education reform initiatives. Both have acknowledged a strong sense of urgency for reform – the US because it has fallen steadily from one of the top-performing systems in the world to its current ranking of 17th, 31st and 23rd in reading, mathematics and science respectively, according to the most recent PISA results (OECD, 2010a). Australia has fared better, at 9th, 15th and 10th respectively, but has stagnated over the last decade.

The combination of lack of progress in many of the English speaking countries, intra-country economic and social problems, and global competition has created a transparent sense of urgency among political leaders to get better whole system reform results as quickly as possible. In other words, policy makers are desperate for 'drivers that work'.

An effective driver is a policy (and related strategies) that actually produces better results across the system. An effective driver is not something that sounds plausible; it is not something that can be justified by a cavalier (as distinct from a carefully considered) reference to research. Nor is it an urgent goal (such as moral purpose); rather, drivers that are effective generate a concerted and accelerating force for progress toward the goals of reform. An effective driver is one that achieves better measurable results with students.

The four 'wrong' drivers I discuss in this paper are compelling on the surface, and have a lot of face-value appeal for people with urgent problems. They will be hard to dislodge. The politics will be fierce because leaders want immediate results, and are susceptible to what look like plausible solutions but turn out to be silver bullets. I believe, however, that we will see some breakthroughs soon, for several interrelated reasons:

- the evidence that the wrong drivers don't work is increasingly clear and compelling;
- there are positive alternative solutions in play that do work and are also clear and compelling; and, most encouragingly
- it is almost inevitable that those most committed to reform, and most perplexed by the lack of progress, will figure it out because they are used to solving complex social problems. I expect, for example, that Bill and Melinda Gates, and key political and policy leaders in the US and Australia will be open to the arguments and evidence put forward in these pages.

In this paper I am only interested in drivers that

- evidently **cause** whole system improvements;
- are measurable in practice and in results; and
- for which a clear case can be made that strategy X produces result Y.

By contrast, an ineffective driver would be one that

- while sounding good actually does not produce the results it seeks;
- may make matters worse; and

- on closer scrutiny can **never** have the impact it purports to produce.

In the rush to move forward, leaders, especially from countries that have not been progressing, tend to choose the wrong drivers. Such ineffective drivers fundamentally miss the target. There are four main 'wrong driver' culprits that I discuss with their matched pairs that refer to the more effective alternative. In all cases choosing a combination of the drivers makes matters significantly worse (or better). The culprits are

1. **accountability:** using test results, and teacher appraisal, to reward or punish teachers and schools vs capacity building;
2. **individual teacher and leadership quality:** promoting individual vs group solutions;
3. **technology:** investing in and assuming that the wonders of the digital world will carry the day vs instruction;
4. **fragmented strategies** vs integrated or systemic strategies.

Although the four 'wrong' components have a place in the reform constellation, they can never be successful **drivers**. It is, in other words, a mistake to **lead** with them. Countries that do lead with them (efforts such as are currently underway in the US and Australia, for example) will fail to achieve whole system reform. Even worse, chances are that such strategies will cause backward movement relative to other countries that are using the right drivers. As we consider each of the four problem strategies, it is worth noting in advance that none of the top-performing countries in the world led their reforms with these four current favourites (although elements of the four components eventually take their proper place in the reform agenda).

I need to be clear here. The four 'wrong drivers' are not forever wrong. They are just badly placed as **lead drivers**. The four 'right drivers' – capacity building, group work, pedagogy, and 'systemness' – are the anchors of whole system reform. You don't have to give up your affinity to accountability, individual quality, technology, and favored quality components of the reform package. Stated another way, I am not talking about presence or absence or even sequence, but rather **dominance**. Dominance is another word for saying what system leaders state and acknowledge as the anointed, explicitly articulated lead drivers. The encouraging news is that the judicious use of the four right drivers ends up accomplishing better the goals that those espousing the wrong drivers are seeking. And it does so in a fundamentally more powerful and sustainable manner.

The right drivers – capacity building, group work, instruction, and systemic solutions – are effective because they work directly on **changing the culture** of school systems (values, norms, skills, practices, relationships); by contrast the wrong drivers alter structure, procedures and other formal attributes of the system without reaching the internal substance of reform – and that is why they fail.

The glue that binds the effective drivers together is the underlying attitude, philosophy, and theory of action. The mindset that works for whole system reform is the one that inevitably generates individual and collective motivation and corresponding skills to transform the system.

The essence of this paper is that if you want to be successful at whole system reform, then base your dominant set of strategies on the four right drivers in combination. If you have a tendency to gravitate to one or more of the four wrong drivers you need to diminish their role proactively; know that the four underlying right drivers are what counts and make them prominent. The glue that binds the effective drivers together is the underlying attitude, philosophy, and theory of action. The mindset that works for whole system reform is the one that inevitably generates individual and collective motivation and corresponding skills to transform the system. It is okay to use the full constellation of eight drivers along the way, as

long as you make sure the less effective four play a decidedly second fiddle role to the right four.

This distinction is critical because the evidence is clear: the wrong four as drivers de-motivate the masses whose energy is required for success; the right four drivers do the opposite. Countries that are successful (increasingly on a sustained basis) have figured this out and will only get stronger. All systems need to shift toward the right constellation of drivers because this will give them success, and will result in global advances. Every country that gets better educationally becomes a better neighbour. The moral imperative in education is about the whole world advancing. Systems that embrace the four right drivers using the so-called wrong drivers in a supportive role can win at home as they win abroad.

Before turning to the four flawed drivers (and their more effective counterparts) we need to consider the national reforms currently being pursued in the United States and in Australia. These are big audacious efforts that I cannot do justice to in this brief paper but we can get a good appreciation of their profile and main elements.

The US and Australia

The US

The Obama administration and the Secretary of Education, Arne Duncan, have launched a massive reform effort that generally goes under the banner of 'race to the top'. The best accessible version is contained in *A Blueprint for Reform* (US Department of Education, 2010a). American aspirations include leading the world 'once again' in college completion by 2020. 'Our goal', says Obama, 'must be to have a great teacher in every classroom and a great principal in every school' (p 1). Four pillars are seen in such a system:

- new world class standards and corresponding assessments;
- a robust data system that tracks student achievement and teacher effectiveness;
- improving teacher and principal quality through recruitment, training and rewarding excellence; and
- turning around the 5000 worse-performing schools (out of a total of 100,000) in the country.

Put another way. the big drivers include: new world class standards; aligned assessments, and focused feedback including student performance and teacher effectiveness often tied to merit pay or similar rewards. For example 48 states, two territories and the District of Columbia have developed a new set of Common Core State Standards (CCSS) in English Language Arts (ELA), and in Mathematics from Kindergarten to Grade 12. These standards are positioned as rigorous, relevant to higher-order skills, informed by the standards in top-performing countries like Singapore, and as evidence- and research-based.

Two consortia have been funded by the Federal Government to develop new assessments for the CCSS set of standards. One group, the Partnership for Assessment for Readiness for College and Careers (PARCC) is developing 'summative' evaluations in the two K-12 strands (ELA and Mathematics) including 'through-course assessments' that will be administered three times during the school year (and a 4th time at the end of the year) for all students in Grades 3 through 8. The assessments will include performance-based higher-order skills. The whole apparatus will be heavily supported by technology of assessment and easy access to data with accompanying resources and tools. The system will be completed by 2015.

The second group is the Smarter Balanced Assessment Consortium (SBAC). Their mandate is

> *to strategically 'balance' summative, interim and formative assessment through an integrated system of standards, curriculum, assessment, instruction and teacher development, while providing accurate year-to-year indicators of students' progress toward college and career readiness.*
>
> (Center for K-12 Assessments for the Common Core State Standards, 2011).

They will integrate performance tasks, computer adaptive assessments (whereby teachers can access 40-65 questions per content area) for immediate online scoring and response, measurement of growth, and accountability reports. They too will complete their task by 2015.

Another part of the reform package in the US consists of the development of updated standards for teachers, such as the Interstate New Teacher Assessment and Support Consortium (INTASC) (Council of Chief State School Officers, 2011). Similar standards exist for administrators focusing on leadership.

Australia

Australia has remarkably similar ambitions and strategies. All education ministers, Commonwealth, State and Territory, agreed in late 2008 to the *Melbourne Declaration on Education and the Goals for Young Australians* (MCEETYA, 2008), which outlined new goals for schooling. This declaration identifies key strategies and initiatives that Australian governments will undertake to support the achievement of the educational goals. Those related to schooling are articulated through the *National Education Agreement* (COAGa, 2008). Four areas of reform have received particular priority and include

- developing a national framework of schooling, linking Australian government funding to state and territory outcomes for schooling;
- increasing school level transparency and accountability, to improve student and school performance;
- closing the gap in educational outcomes between Indigenous and non-Indigenous students; and
- developing and implementing a national curriculum across all learning areas from kindergarten to year 12.

In order to support these key reform priorities, National Partnerships have been established (COAG, 2008b), representing a new approach to funding and working collaboratively across all school systems, aiming to

- address disadvantage in low socio-economic status school communities;
- provide a greater focus on literacy and numeracy, including building the evidence base of what works to improve literacy and numeracy outcomes;
- improve teacher quality, including leading work on national teacher workforce reform in relation to pre-service teacher education, teacher standards, teacher registration, professional standards for school leaders and performance management.

Three newly established key national agencies play a major role in this equation – the Australian Curriculum, Assessment and Reporting Authority, the Australian Institute for Teaching and School Leadership, and Education Services Australia. As in the US, the reform strategy is to drive reform by better standards, assessment, monitoring, intervention and development.

As in the US, the reform strategy is to drive reform by better standards, assessment, monitoring, intervention and development.

As one more important point, Australia has an additional whole system constraint – there are three publicly funded educational sectors:

- the public sector (what we would call the public education system in North America);
- the Independent Sector (private schools, which are funded by the public purse); and
- the Catholic sector (also funded publicly).

With this structure and tradition 'systemness' poses a further challenge.

I will say flat out, for reasons that will become clear in the ensuing pages, there is no way that these ambitious and admirable nationwide goals will be met with the strategies being used. No successful system in the world has ever led with these drivers. They cannot generate on a

large scale the kind of intrinsic motivational energy that will be required to transform these massive systems. The US and Australian aspirations sound great as **goals** but crumble from a **strategy or driver perspective**. At best they can tighten up an otherwise loose system and get temporary pockets of improvement, but can never establish the conditions for whole system reform. These wrong drivers are ineffective because they fail to get at changing the day-to-day **culture** of school systems. Let's take a closer look.

Focusing on accountability (vs capacity building)

It is understandable that politicians and their public go for 'rigorous and fair accountability' at all levels' especially if, as is the case with the US, they have invested heavily for 30 years with little or no progress to show for it (US Department of Education, 2010a). The same observation holds for Australia – 'greater accountability of schools' across the nation (Australian Government, 2010).

The US and Australian aspirations sound great as goals but crumble from a strategy or driver perspective. At best they can tighten up an otherwise loose system and get temporary pockets of improvement, but can never establish the conditions for whole system reform.

A focus on accountability uses standards, assessment, rewards and punishment as its core drivers. It assumes that educators will respond to these prods by putting in the effort to make the necessary changes. It assumes that educators have the capacity or will be motivated to develop the skills and competencies to get better results. It is true that in both cases there is money, and an investment in capacity building (but, as we shall see, it tends to be individualistic rather than collective, and is based on rewarding higher performers financially). Even the money is not sustainable because the public will only support continuous spending if the investment is paying off, and the investments in question will not, cannot succeed on any convincing level. Strange as it sounds, leading with accountability is not the best way to get accountability, let alone whole system reform. The four right drivers actually produce deeper, more built-in accountability of action and results.

To be clear, it is not the presence of standards and assessment that is the problem, but rather the **attitude** (philosophy or theory of action) that underpins them, and their **dominance** (as when they become so heavily laden that they crush the system by their sheer weight). If the latter is based on the assumption that massive external pressure will generate intrinsic motivation it is patently false. Instead (and this will require combining the right elements of all four driver sets) what is required is to build the new skills, and generate deeper motivation. Change the underlying attitude toward respecting and building the profession and you get a totally different dynamic around the same standards and assessment tools. Furthermore, focusing on standards and assessments does not highlight adequately the **instructional improvements** that are the core driver in the equation. Put slightly differently it is the learning-instruction-assessment nexus that is at the heart of driving student achievement.

For whole system reform to occur, lead drivers, as I have said, must get at the motivation and competency development of the vast majority of educators. Accountability measures plus sticks and carrots do not and cannot, ever accomplish this feat. Higher, clearer standards, combined with correlated assessments are essential along the way, but they are not going to drive the system forward. Whole system success requires the commitment that comes from intrinsic motivation and improved technical competencies of groups of educators working together purposefully and relentlessly. Accountability in the form we are seeing in the US and Australia does not build widespread capacity, nor does it increase

intrinsic motivation. Do testing, but do less of it and, above all, position assessment **primarily as a strategy for improvement**, not as a measure of external accountability. Wrap this around with transparency of practice and results and you will get more accountability all round.

Playing down blatant accountability to get more real accountability is a hard argument to grasp, but we get some great insight from one of the findings in the McKinsey study of 20 strongly improving systems (Mourshed et al, 2010). In all of these systems the McKinsey group measured the number of interventions that could be classified as 'accountability' based, and the number that focused on 'professional learning' (capacity building). Accountability interventions included externally conducted performance assessments with consequences, school inspections and reviews and the like; capacity-building referred to investments in collaborative practices, coaching technical skill building and so on. What they found was this: in the improving systems in the developing countries (those going from awful to adequate) the interventions were split 50/50 – an equal proportion of accountability and capacity-building activities; in the good to great countries the percentages were 78 per cent professional learning, and 22 per cent accountability. In short, even in the worst cases ('awful performance') accountability was a co-equal driver, not a dominant one.

The net result of excessive testing is that, instead of teachers being swept up to ride waves of successful reform, they will be crushed by a veritable tsunami of standards and assessments. The US approach, as of now, requires that English Language Arts and Mathematics be assessed for all students in Grades 3 through 8, along with summative assessments four times a year. Even in sheer accountability terms there will be such a massive amount of data that teachers, let alone the public, will not be able to grasp what is happening. Moreover the current standards-assessment imposition is so great that it will end up squelching any possibility that the higher-order skills (which require engagement and ingenuity) will be accomplished, even though some of these skills are in the set. What sets out as progressive for the 21st century ends up going backwards. Make no mistake about it, the higher-order skills – critical thinking and reasoning, problem solving, communication (including listening), collaboration, digitally-based learning, citizenship – will become the new average for the rest of this century. The four wrong drivers block any possibility of heading down this critical path.

In the final section of this paper I will address the question of how to get better accountability without loading it directly with negativity, but I can say here that high-stakes accountability will only motivate a small percentage of teachers and, even if motivated, only a minority will know what changes to make in instruction to get better results.

Nor will turning around the bottom 5 or 10 per cent, or enabling charter or special schools to start afresh, get us very far. It is the **whole system** that must get better, and in fairly short order – 6 or 7 years or so; 5 per cent here, 10 per cent there, do not add up. In fact not even most of these low-performing schools will improve, or stay improved, if the wider system is not on the move as well. Partial solutions get partial results.

In the meantime, I repeat that no system in the world has ever achieved whole system reform by leading with accountability. As the 'right drivers' progress (capacity building and team work for example) **transparency of results and practice** will be key to securing public commitment to education, and to elevating the status of the profession. This vertical accountability (transparency at the classroom, school, district, state levels) is essential for sustainable progress. However, it must be wrapped in a prevailing attitude of capacity building, engagement, and trust building – the latter producing greater lateral accountability among peers, which is absolutely critical for whole system reform.

Individual Quality (vs Group Quality)

This is a tricky one because it looks so rationally obvious – teacher and school leader quality are the two most critical factors; therefore improve them directly through incentives, teacher appraisal, development and punishment for those who lag behind. This logic is deceptively fatal for whole system reform.

The problem starts innocently enough, with the much cited finding about two students who start at the 50th percentile: Student A has very good teachers for three years in a row; Student B has poor teachers for this period of time. At the end of the third year, student A is at the 75th percentile, and student B at the 25th percentile – a difference of 50 percentile points or the equivalent of at least one full year ahead or behind. So, the wrong driver takes over and we get merit and performance pay for the top 15 per cent, tough measures for the bottom 10 per cent, and teacher evaluation with new effectiveness measures. You will appreciate here that the solution has compounded the problem – a kind of double jeopardy that combines wrong-headed accountability with individualistic application – drivers one and two in cahoots.

Better performing countries did not set out to have a very good teacher here and another good one there. They were successful because they developed the entire teaching profession

Teacher appraisal and feedback would seem to be a good idea (CCSSO, 2011; Gates, 2010; Jensen and Reichl, 2011). This strategy is justified on the basis that feedback improves performance. The logic is reinforced by the finding that focused feedback to students has the most powerful impact on student learning of all pedagogical practices (Hattie, 2009). It should be the same for adults. Note, however, that student feedback only works when it is embedded in a classroom culture that is supportive of learning. The same is true for teachers. Teacher appraisal will not work unless it is embedded in a school culture of learning where teachers are motivated to learn from feedback. Hattie's findings are over-interpreted if you just take the literal notion that all good feedback is automatically beneficial. As he puts it, 'it is the willingness to seek negative evidence (seeking evidence where students are not doing well) to improve the teaching … the keenness to see the effects on all students, and the openness to new experiences that makes the difference' (p. 181). This is a **cultural** phenomenon not a procedural one. The practice of integrating feedback into actions that result in improvement is embraced by teachers and their leaders essentially because their culture values it. That is why it works. Throw a good appraisal system in a bad culture and you get nothing but increased alienation. When the Grattan report says that their proposed appraisal system 'will require a change in culture' it is fundamentally correct (Jensen and Riechl, 2011). This innocent little phrase 'change in culture' is the Elephant in the room. This is the very Elephant that the four right drivers are dying to ride. Culture is the driver; good appraisal is the reinforcer, not the other way around.

The problem is that no nation has got better by focusing on individual teachers as the driver. Better performing countries did not set out to have a very good teacher here and another good one there, and so on. They were successful because they developed **the entire teaching profession** – raising the bar for all. Systems are successful as systems because 95 per cent or more of their teachers become damn good. How long do you think it will take the US, for example, to get to the 95 per cent+ level using the current strategies?

The fallacy – to which the US, with its 'rugged individual' traditions, is particularly susceptible – is that success does not come from ad hoc individuals beavering away but rather from strategies that leverage the group. We can use a revealing study from Carrie Leana (2011) a business professor at the University of Pittsburg. She starts with the well-known finding that the

patterns of interaction among teachers and between teachers and administrators when focused on student learning make a large measurable difference on student achievement and sustained improvement. This is called 'social capital', which she contrasts with 'individual capital' that is based on

> *the widespread belief in the power of teacher human capital to transform public education [which] is one of the cornerstones of current reform efforts.*
>
> (p 2)

This dependence on human capital to carry the day is, of course, our wrong driver.

Leana set out to test the relationship between the power of human and social capital. She and her team followed over 1,000 4th and 5th Grade teachers in a representative sample of 130 elementary schools across New York City. The human capital measures included teacher qualifications, experience and ability in the classroom. Social capital was measured in terms of the frequency and focus of conversations with peers that centered on instruction, and that was based on feelings of trust and closeness between teachers. She studied the impact on mathematics achievement over a one-year period.

Leana uncovered several interrelated themes directly related to my argument here. If a teacher's social capital was one standard deviation higher than the average, her students' mathematics scores increased by 5.7 per cent. It is of course the case that teachers with high ability outperform teachers with low ability, but that is not the big driver. Leana reports that teachers who were both more able (high human capital), and had stronger ties with their peers (high social capital) had the biggest gains in math achievement. She even found that low-ability teachers perform as well as teachers of average ability '*if* they have strong social capital' in their school (p 10, italics in the original). In short, high social capital and high human capital must be combined, and of the two the former is more powerful.

Recall that human capital refers to the teacher's cumulative abilities, knowledge, and skills developed through formal education and on-the-job experience. Social capital is not a characteristic of the individual but instead resides in the relationships among teachers and between teachers and principals. Leana's findings mean that having bad working conditions (low social capital) makes good teachers less effective, and makes poor teachers get even worse. Her findings also mean that the goal is to develop in concert **both** high human and high social capital. More than that – high social capital is a powerful strategy to leverage human capital.

high social capital and high human capital must be combined, and of the two the former is more powerful.

Imagine that you would become a better teacher just by virtue of the fact that you are on the staff of a particular school in a particular district in a particular state or country. That is the power of social capital.

Even more disturbing for those riding the wrong drivers is the realisation that even if driver one (standards, assessment-based accountability) produces some increase in human capital, it will be swamped by the failure to pay equal attention to social capital. You do not have to choose one over the other, but make sure that strategies based on team work are more prominent.

The good news is that the right drivers in combination – capacity building and group development – generate greater success and greater accountability. Dylan Wiliam (2011) captures this phenomenon in his book *Embedded Formative Assessment*. He shows how five key strategies of formative assessment strengthen both instruction and achievement. These strategies

- clarify learning intentions and criteria for success;
- engineer effective learning experiences;

- provide feedback to learners;
- establish active learners as instructional resources for each other; and
- develop learners as the owners of their own learning.

This is really our instruction-achievement nexus. Simultaneously it builds capacity and addresses accountability. Student assessment data are positioned primarily as a strategy for instructional improvement and serve secondarily as external public accountability. The causal sequence is the right one – get more instructional improvement and you get more accountability. Everybody wins. For this to happen it requires new capacities across the entire profession.

By adding social capital-based strategies you get multiple benefits. For example, focused collaborative practices mobilise and customise knowledge in the system, enabling teachers to know what other teachers do and to learn from them. In addition to leveraging instructional capacity, purposeful collaboration serves as the most effective form of lateral accountability. When combined with transparency of results, the whole apparatus fosters both collective ownership of educational practice and accountability to the public. Finally, these actions represent the best route to developing a trusted and respected profession. This is what successful countries are doing. They are producing social not just human capital.

you actually cannot get whole system reform without peer power

In short, individual rewards and incentives and other investments in human capital do not motivate the masses. If you want to reach the goal faster you must invest in capacity building, and use the group to get there. There is heaps of evidence staring policy makers in the face that it is the collaborative group that accelerates performance, including squeezing out poor performers as teaching becomes less private and more collaborative. These results occur because the day-to-day pressure and support is built into the work. It is social capital leveraging human capital that has the quality and speed essential for whole system reform.

Thus changing social capital is the powerful strategy. I am not saying rely on the group by itself. Rather the judicious mixture of high expectations, relentless but supportive leadership, good standards and assessment, investments in capacity building, transparency of results and practice is what produces better results, and better accountability. This is how Ontario, for example, improved literacy and numeracy across the whole system and went from 68 per cent high school graduation rate to 81 per cent in 6 years (for more on collective capacity building see Fullan, 2010a).

As with accountability there is a developmental sequence here. If the teaching force has low capacity more directive support will be required at the beginning; not heavy-handed accountability but direct development of teachers through professional learning of effective instructional practices. As teacher and leader capacity become stronger, peers become the greater driving force, as the McKinsey study found. By mobilising peers, leaders accelerate whole system reform (you actually cannot get whole system reform without peer power), and establish conditions for sustainability. Every high performing system studied by the McKinsey group combined policies to attract and develop a high quality teaching force along with strategies and incentives for leaders and peers to work together. Successful countries did not get that good just by attracting different people to the profession. They also and simultaneously changed the profession on the ground by building collaborative cultures focused on developing educator commitment and competence, thereby obtaining better outcomes for all.

Many leadership-driven solutions suffer from the same individualistic flaw. It is expected that attracting and developing new leaders will help change the system. New high-quality leadership academies are the result. The search

is on for high-performing principals – attract them, develop them, reward them. I want to be careful here. The best of these programs are valuable as part of the mix, but don't expect them to change the system, especially with the combination of drivers we are talking about. Look what is happening. The new leader is saddled with managing a highly charged and punitive accountability system, along with the management of an increasingly controversial performance management system. If the other pieces that we have been talking about do not work, and there is no evidence anywhere that they do work for whole system reform, saddling great new leaders with running a dysfunctional system cannot possibly do any good for the individuals or the systems they are expected to transform.

There are two excellent recent contributions to the debate about how to increase the quality of teachers and principals across the board. I use them here to indicate the necessary ingredients, but also to remind the reader what the essence of the solution needs to be. It needs to include an explicit strategy to develop the group as well as the individual. It is easy to miss this collective component because it is one step more complicated than dealing with individuals.

Allan Odden's *Human Capital in Education* gets most of it right but underplays the key factor of social capital (Odden, 2011). Ironically his book is peppered with examples of the power of collaborative work teams, but he fails to recognise them as social capital. The core issue for Odden, as I have been arguing, is the 'continuous improvement of instruction linked to personalized student learning'. He then systematically addresses the human capital system that will be required:

- recruiting and staffing top talent;
- measuring teacher performance;
- induction and professional development;
- new policies for licensure, tenure, evaluation, and dismissal;
- compensation;
- strategic talent management for principals; and more generally
- organising to implement strategic human capital management in education.

(Odden, 2011)

There are two problems. First, it is easy for system leaders to go about developing such a system without realising that the heart of the matter is **instructional improvement linked to student learning** – all teachers, all the time. The second shortcoming is the aforementioned need to single out collaborative cultures as vital for developing all teachers, vital for accelerating the pace and quality of reform, and vital for lateral and vertical accountability.

The other great contribution to this debate is the background report produced by OECD for the International Summit on the Teaching Profession, hosted by Arne Duncan and other state leaders in New York in March, 2011. The report is entitled, *Building a High-quality Teaching Profession: Lessons from Around the World* (OECD, 2011). As with Odden, the right lessons are there, but a new crucial one is added. With respect to the former there are solid chapters on 'recruitment and initial preparation of teachers'; 'teacher development, support, careers and employment conditions'; and 'teacher evaluation and compensation'. The new lesson is 'teacher engagement in education reform' which essentially concludes that you cannot get there without widespread teacher ownership.

Teacher ownership is certainly a tough nut to crack. If the quality of the teacher is the premier factor related to student learning and if you want whole system transformation then it must be virtually **all teachers** who own the reform. You simply cannot get around this – all the successful systems have recognised this one fact. In its section on 'achieving educational reform that works' the OECD report states it this way:

> *In moving beyond consultation to involvement the reform process becomes oriented towards transforming schools into learning organizations with teachers in the lead.*
>
> (OECD, 2011, p 52)

And don't make the mistake of thinking because you involve some teachers in key deliberations that you have involved the profession. Rather what works is the daily experience of all teachers – peers working with peers in a purposeful profession that is effective at what it does while it embraces public accountability. We are, after all, talking about changing the day-to-day culture of the teaching profession.

The holy grail of teacher quality is only a proxy for effective instruction. Once you dwell on instruction the whole system can be mobilised to that end.

Ownership is not just for commitment. The process of ownership, represented by the flip side of the wrong drivers, develops strong instructional expertise on an ongoing basis. Motivation **and** expertise go hand in hand. I hope it is also abundantly clear that the two wrong drivers discussed so far undermine widespread ownership and its twin powers of motivation and competence across the profession.

Policy makers in a hurry are prone to choose the wrong drivers. Thus, when they see good reports such as those by Odden and OECD, they are likely to fix on the wrong solutions and hence miss the heart of the matter. The essence of whole system success is **continuous instructional improvement** closely linked to student engagement and success, again for all students. The drivers that work motivate teachers to engage in instructional improvement with peers. Revealingly, the reverse causal sequence is just as crucial; that is, increasing instructional improvement causes motivation to increase – what we call 'the moral imperative realised' (Fullan, 2011). Success means greater efficacy and the latter breeds greater commitment.

The question of ownership and engagement is the crucial factor. The right drivers embed both of these for students and teachers. Similar extensions of policies and strategies aimed at generating ownership on the part of parents, communities, business leaders and the public at large will also be required. It is beyond the scope of this paper to take up these matters, but a high-quality, transparent education will go a long way in reassuring the public.

If you want the instructional practices-student engagement/achievement nexus to be the centre of attention do two things: name it as the focus, and use the group to get more of it. The holy grail of teacher quality is only a proxy for effective instruction. Once you dwell on instruction the whole system can be mobilised to that end. It won't be heavy handed accountability, teacher appraisal, rewards and incentives, and the like that will move big systems. Movement on this scale can only be realised through actual improvements in instructional practice. The latter, as I have said, is tightly connected to the intrinsic motivation of teachers and their peers to do the job well. Policies that focus on both human and social capital and do this with transparency of practice and results will create all the pressure and support that is needed for effective accountability.

In conclusion, I want to underscore what is said in OECD's (2011) Chapter 4, Teacher Engagement in Education Reform. If policy makers don't 'get' this one, I can guarantee you they will choose the wrong drivers every time in each of our pairs. If we let the wrong drivers have their way they will undercut intrinsic motivation, and group development. If accountability-driven standards and assessment do not kill you, individualistic appraisal will come along to make sure you are dead. The right drivers, by contrast, energise the group and the individuals therein.

Technology (vs instruction)

Ever since the first laptop emerged almost 40 years ago technology has been winning the race over pedagogy; that is, technology gets better and better, while instruction doesn't. The notion that having a laptop computer or hand-held device for every student will make her or him smarter, or even more knowledgeable is pedagogically vapid. Picasso once said that the trouble with computers is that they provide the answers.

Technologies' prodigious power leads many of us to rely heavily on linking the 'digital dude' to an endless knowledge source. The report *Digital Learning* now provides a good example of the overpromising that comes from using a driver that cannot get you there (Bush and Wise, 2010). It starts this way:

> *By unleashing the power of digital learning, America has the ability to realize that vision [a vision that maximizes every child's potential for learning … today.*

Not without smart pedagogy it won't. The Bush, Wise report acknowledges the importance of instruction, but I am afraid that the wrong driver – technology as solution – is the more seductive partner.

Fortunately there are some signs, and more importantly some developments that indicate that pedagogy is seeking the driver's seat. The main policy document from the US gets it right – *Learning Powered by Technology* (US Department of Education, 2010b). The essential idea is to get the right learning embedded in the technology – a task that many of us are working on these days. I know that harnessing technology is the goal of current policy documents but the means of so doing involves the flip side of the drivers that I have been critiquing in this paper.

The Bill and Melinda Gates Foundation again could become a strong catalyst for this new work; not their more high-profile work on Measuring Effective Teaching (MET), which will come in handy later (but please not now as a driver), but their more fundamental work of fuelling the next generation of learners by co-designing, with teachers and students, high-quality digitally based material that will furnish dynamic learning experiences – complete with access to data and to flexible but high quality instructional practices that will, for example, enable the learning of literacy and mathematics at a deep and efficient level. All of this, of course, will be powered by latest and evolving technology, but for a change it will be in the service of instruction. There are other similar developments, including one we are working on to produce Hollywood-quality digital curriculum content that will engage and entertain students, orchestrated by teachers who will be experts in both technology and pedagogy.

I hate to sound like a broken twitter but no other successful country became good through using technology at the front end. Without pedagogy in the driver's seat there is growing evidence that technology is better at driving us to distraction, and that the digital world of the child is detached from the world of the school. As OECD's surveys carried out in 2008 show, frequency of use of computers at home is not paralleled by use at schools; most digital use is related to the internet or to entertainment; and school use for educational engagement and deep learning (for example of higher order skills) goes missing (OECD, 2010b).

There is no evidence that technology is a particularly good entry point for whole system reform

Teachers need to get grounded in instruction, so they can figure out with students how best to engage technology. There is no evidence that technology is a particularly good entry point for whole system reform, but it will be a dramatic accelerator if we can put instruction, and skilled motivated teachers and students in the lead. Once this instructional-digital powerhouse gets under way, students will motivate teachers as

much as the other way around. This is the new work that will be necessary to reverse the trend of technology racing ahead of pedagogy.

The good news (mostly) is that the further development of technology has a life of its own. It will get more and more powerful, cheaper and more available. In the latest work, learning and instruction become the driving forces, so that we will ride the technology wave instead of being at the mercy of a powerful but intrinsically aimless phenomenon.

Fragmented (vs systemic)

Along with cultural traditions of individualism come tendencies to focus on single rather than systemic solutions. Thus the US, for example, has a habit of breaking things into pieces – and what looks like a system is not, because the pieces are not well connected. This problem is aggravated when some of the pieces are the wrong ones to begin with. Standards over here, assessments over there, and teacher appraisal and incentives in still another box: what can be portrayed as a system (the pieces are there, and can be made to **sound** comprehensive) is not integrated as a coherent whole, and thus does not function 'systemically'. Implementation then becomes a hodgepodge. Countries without systemic capacities have great front end, episodic fanfare but have a constitutional inability to put things together during implementation.

Systemic does not mean that the various elements can be described as linked. This is only systemic **in theory**. It is practice that counts. Thus systemic strategies both require and support on-the-ground improvement efforts in **every school and every district**. This is why the 'right' sides of drivers one, two and three are the winners. Capacity building, group work and deep pedagogy, accelerated by technology, are in effect processes that support, indeed require, all schools to engage in the improvement of practice. The natural definition of systemic means that all elements of the system are unavoidably interconnected and involved, day after day. In a systemic world evidence-based learning really is the daily work. Systemic is experiential not theoretical. In other words the four wrong drivers are not 'systemic' by this definition.

Without a systemic mindset, countries fail to focus on the right combination with the right mindset. In the successful countries it is clear that there is an absolute belief that quality education for all is crucial to their future (OECD, 2011). These countries then approach the task with the knowledge that everyone must be part of the solution. They know that teachers are key to improvement and can only work effectively when they are supported. They make major, coordinated efforts to improve the quality of teachers through various forms of support: from recruitment to the profession at initial teacher education through the early years of teaching, continuous learning on the job, good working conditions including team development, and differentiated roles of leadership as the career evolves. The McKinsey group drew the same conclusion:

> *it's a system thing, not a single thing.*
>
> (Mourshed et al, 2010, p 37)

In the absence of a system mindset individual pieces, each of which contains half-truths, are pitted against each other as vested interests bash each other with proverbial baseball bats. No one wins; the system loses every time.

All of the successful systems have come to trust and respect teachers. I use the phrase 'come to trust and respect' advisedly because trust is as much an outcome of doing the right things as it is a starting point. For the US and Australia the issue of teacher trust and respect represents a huge 'chicken and egg' dilemma. If you don't have trust how do you get it? Let me provide an odd-sounding answer from our motion leadership work (Fullan, 2010b). If you want to break the cycle of distrust you have to respect others 'before they have earned the right to be respected' … and then do the things that build competencies and trust over time.

This dynamic, of committing to respect before it is well-established, is something that non-systemic oriented people don't get easily. When Finland and Singapore began their reforms 40 years ago they did not have a profession that warranted respect, but they set about to build such a system. This is essential for whole system reform. Unless the US and Australia back off low-trust strategies, and start engaging the profession in the solution (OECD's (2011), Chapter 4, Teacher Engagement in Education Reform) they will get neither the commitment nor the skills sufficient for whole system success. The funny thing about systemic implementation is that it ends up building greater accountability into the system among teachers and others than can be obtained by more overt accountability measures. This does not occur overnight but it can be achieved in reasonably brief timelines – half a dozen years as the McKinsey group found – **if** you employ the right combination of drivers. It is time for a fundamental shift in strategy.

Implications

My main purpose in this paper has been to shift policy makers' thinking away from big drivers that are counterproductive. Thus the first idea is to focus on the actual limitations of current levers – limitations that are fatal to the goal of whole system reform. I do not for a moment want to convey that everything about accountability, individualism, technology and given pieces of the reform packages is worthless. These elements have their place in a more fully developed system. My main point is that these four policy/strategy levers are miscast as drivers of whole system reform. Used alone or as the central drivers they certainly will not get us where we need to go and, very probably, will do more harm than good.

In the cases of the US and Australia one could argue that since their seemingly comprehensive reforms are very recent that it is unfair to judge them. They have not yet had a chance to have an impact. I hope I have made it clear that there is no way that the four 'wrong drivers' can motivate the masses, which is required for whole system reform. At the same time, we have a growing number of examples that basing one's strategy on the alternative set of drivers that I have proposed actually does work, if you have the commitment and persistence to put them into place. These drivers work because they directly change the culture of teaching and learning. It is time for a different mindset and associated set of policies and strategies. The greater one's sense of urgency the more one should re-route whole system reform.

This is not the place to develop a detailed alternative plan, although the latter is well contained in the references to the successful systems including Ontario that I have been citing in this paper. Instead let me position the solution as four interrelated components.

The heart of the matter

The 'heart of the matter' consists of focusing on four systemically related big drivers that work.

1. The learning-instruction-assessment nexus
2. Social capital to build the profession
3. Pedagogy matches technology
4. Systemic synergy

My main purpose in this paper has been to shift policy makers' thinking away from big drivers that are counterproductive.

The first of these is about making sure that the centrepiece of action is based on learning and instruction. In this regard, relentless development of what we call 'capacity building' – to make learning more exciting, more engaging, and more linked to assessment feedback loops around the achievement of higher order skills (which I have called the new average) – is the main agenda. There is a lot going on in the world in this respect, but it has to be harnessed and made more widespread. Part and parcel of this work is the deep commitment to the moral purpose of raising the bar and closing the gap for all students.

Second, use the group to accomplish the new learning-instruction culture. More specifically, approach the solution as a **social capital** proposition to build the new teaching profession. This will require building collaborative cultures within and across schools. Within this approach there is a crucial role for key personnel and other human capital polices and strategies – those very components that have been spelled out well by Odden (2011) and OECD (2011). However, if development of individuals is not surrounded by a culture of developing social capital it will fail.

There is a choice and some countries have made it. Replace the juggernaut of wrong drivers with lead drivers that are known to work.

Third, go all out to power **new pedagogical innovations with technology**. As I noted, there are numbers of these developments currently under way that are aimed at the next generation of learners. What makes these advances crucial is that they combine so many elements needed for success: engagement; entertainment; ease of access to information and data; group work; humanity; social relevance; and so on. In a word they make education easier and more absorbing. Learning and life become more seamless.

Fourth, the set of good drivers must be **conceived and pursued as a coherent whole**. This is not as difficult as it seems. There are only a few key components. Focus on the right ones, and treat them as feeding on each other. They actually serve as mutually supportive and interactively corrective. The strengths of one complement the weakness of another, and vice versa (for example, transparency helps with accountability as it adds to capacity building); each driver is generative in serving two or more purposes simultaneously (for example, peer learning and accountability are promoted equally within the same strategy). Do not make the mistake of thinking because you have the right pieces that you have a system. The four right drivers must be conceived and designed as working interactively. Recall that the main criterion of systemic reform is that **all** schools and districts are engaged in improvement efforts, while being aware that they are part of bigger phenomenon to change the world.

The drivers I am recommending create the very fundamentals that I started with in this paper – learning and teaching become driven by the individual and collective intrinsic motivation that has permanent staying power. This is what the successful world systems are doing, and if countries lagging behind do not change their ways the gap will become larger and larger. Societies that do not respond well will suffer. They will suffer internally in body and soul, and will suffer on the world stage. It is not far-fetched to link lack of progress over subsequent decades to societal disintegration in affected countries.

There is a choice and some countries have made it. Replace the juggernaut of wrong drivers with lead drivers that are known to work. It will be most difficult at the beginning because it will represent a way of thinking and action that many people will find foreign (although there is actually a great deal of support for the better drivers within the US and Australia). Feeling awkward at the beginning seems a small price to pay, compared to feeling miserable and worse through persistent failure.

Key leaders can make a huge difference at this critical juncture. 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. Instead, make the instruction-assessment nexus the core driver, and back this up with a system that mobilises the masses to make the moral imperative a reality. Change the very culture of the teaching profession. Do so forcefully and you will find many allies. It is time to embrace, and relentlessly commit to the right drivers.

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About the Paper

Michael Fullan examines drivers typically chosen by leaders to accomplish whole system school reform, critiques the inadequacy of those drivers for achieving the intended outcomes, and offers an alternative set of drivers that have been proven to be more effective for accomplishing the desired goals. He argues that many systems not only fail to feature these components but choose drivers that actually make matters worse. He concludes that the most successful systems around the world are using drivers that lead to learning and teaching being based on individual and collective intrinsic motivation, which has permanent staying power. Fullan comments that if countries lagging behind – currently including the US and Australia – do not change their ways, the gap will become larger and larger.

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