Whole System Reform for Innovative Teaching and Learning

Michael Fullan

OISE/University of Toronto

October 2, 2011

Once in a while there is a convergence of independent but relatable forces that come together and create synergetic breakthroughs in societal learning. We are at the early stages of a potentially powerful confluence of factors that could transform education. What one looks for is change that has an elegant quality to it—something that is ingeniously simple and profound. The three forces that currently offer us this possibility are: recent knowledge about 'whole system reform', more precise pedagogical practices, and digital innovations with enormous potential. This paper addresses these factors in two parts. The first section reviews whole system reform; the second section shows have high yield instruction and technology need to come together. To illustrate the latter I use the new research arising from Microsoft's PIL 'innovative teaching and learning practices'.

While this new clarity is at the early stages subsequent breakthroughs will occur at an increasingly accelerated pace. The agenda is becoming clearer with dramatically greater potential for going to the next stage of transformation.

Whole System Reform

A few of us in Ontario, Canada over the past 8 years have had the opportunity to engage in what we call 'whole system reform' which we define as raising the bar and closing the gap for all students in every school, and in every district and at all levels in the public school system. In Ontario's case (there is no Federal education agency in Canada) this means 2 million students, 130,000 educators, 5,000 schools in 72 districts. Ontario has a highly diverse population of over 12 million people including a steady stream of recent immigrants.

Drawing on the experience in England in 1997-2001 (but not imitating it) we designed a whole system reform strategy for Ontario that at the time, 2003 had just passed through five years of stagnated school and student performance, and bitter relations between the government and the teaching profession. The key drivers of the reform were first and foremost the Premier (equivalent of the governor) of the province, Dalton McGuinty, still at the helm after eight years, the Minister of Education, Gerard Kennedy (for the first few years), Ben Levin, Deputy Minister (equivalent of the state superintendent), the head of the first Literacy and Numeracy Secretariat, Avis Glaze and myself as Special Adviser to the premier.

We combined an assertive and ambitious agenda from the centre with a respectful two-way partnership with the sector in order to accelerate whole system improvement. I have written about this before and will not repeat the detail here (Fullan, 2010). Our priorities were to improve literacy and numeracy (deeply defined), close the gap for all disadvantaged students, and increase the public confidence in the public school system. We recently added a fourth priority—full day kindergarten for all 4 and 5 year olds (currently about half implemented). Our strategy in a nutshell is 'capacity building with a focus on results'. We have been careful to combine relatively non-judgmental attitudes in the early stages with transparency of results and practice.

Short accounts of this strategy have been written recently by Ben Levin (2012), and Minister Kennedy (2011). Levin for example lists 8 factors that comprised our strategy:

1. A small number of ambitious goals.
2. A positive stance on improving all schools.
3. Emphasis on capacity building with a focus on results.
4. Multi-level engagement with strong leadership.
5. Effective use of research and data.
6. A focus on key strategies (e.g. improving instruction) while managing other issues.
7. Effective use of resources.
8. Development of an infrastructure to a) focus on implementation of the task, and b) lead and support the change process.

Gerard Kennedy's list is similar (which is the point here):

1. Establish a strong sense of vision.
2. Take calculated risks (ambitious public goals)
3. Embed capacity for implementation.
4. Partnership based on respect.

5. Culture shift to one that values results and is enterprising.

The results are impressive (but not deep enough as I will argue later). Literacy and numeracy, again deeply defined, have increased by 15% over the 4,000 elementary schools; there are dramatically fewer schools with high percentages of low performers; high school graduation rates rose from 68% to 81% and are still increasing; morale and ownership if educators is strong; and the public's satisfaction of its schools' performance is high.

Ontario's success and the reasons therein have been documented by external researchers including the McKinsey and Company (Mourshed et al, 201), and the National Centre on Education and the Economy (Tucker, 2011). It is not so much that we invented the best ideas. We borrowed from around the world. Other high performing countries such as Finland and Singapore over longer periods of time have built similar successful systems. The main point is that whole system reform can be accomplished in reasonable short periods of time. We started to get good results and growing ownership within two years.

Wrong Drivers Detour

Thanks to the comparative reports cited in the previous paragraph and the growing presence and precision of OECD's PISA program which assesses the performance of 15 year olds in some 65 countries in literacy, math and science there is a growing interest among politicians in joining the race to the top. This is good news and bad news. I will end up saying in this paper that deep whole system reform does not have to be overwhelming and may indeed get easier but in the short run politicians still have the tendency to rely on certain silver bullets. I call these 'wrong drivers' Fullan, 2011). A driver is a major policy and set of associated strategies that promises to achieve successful whole system reform. Wrong drivers fail to deliver while right drivers do have the intended impact.

Let me state the criteria that a driver must meet in order to be impactful, namely does it sooner or later: i) foster intrinsic motivation of teachers, and students; ii) engage them in continuous improvement of instruction and learning; iii) inspire collective or team work,; and iv) affect 'all' teachers and schools—100%.

The four 'wrong drivers' I identified, and using the U.S. and Australia as case examples are (the corresponding right drivers are in parentheses):

1. External, punitive accountability (vs capacity building).

2. Individual (vs group) solutions.

3. Technology (vs pedagogy)

4. Ad hoc (vs systemic) policies.

It is not that the wrong drivers have no place in the set of strategies, but rather they are miscast as lead drivers. They simply fail to engage the masses in the kind of reform that would be comprehensive and deep.

While these are clearly the wrong drivers for moving forward I can't say that whole system reform has produced the depth we need for the future. For the latter to happen we need to integrate high yield pedagogical practices with breakthrough digital technologies.

Innovative Teaching and Learning

Despite some initial impressive success in whole system reform the improvements are neither deep enough nor widespread. The criteria I hold for going to the next phase- a qualitatively different level of performance—include pedagogy that is: *engaging, precise, high yield, and higher order*. This new pedagogy would capture the intrinsic motivation of learners individually and collaboratively.

At this stage in the learning journey there are two big barriers—one generic and one specific to higher order learning. The generic barrier is the fact that 'instruction' goes missing or at least seriously underdeveloped in the improvement agenda. Think of a three-legged stool: standards, assessment, and curriculum/instruction. It is almost always the case that the black box of instruction is the most neglected of the three (consider for example all the current fanfare around common core state standards and the corresponding two assessment consortia within which instruction is a distant third cousin).

At the specific level current pedagogies do not meet the three criteria stated above. Stated negatively education experiences for most students are boring (low engagement), unrewarding for the effort (low yield), and biased toward low-level skills (lower order skills). This is where ITL comes in.

The results of the ITL research are described in detail elsewhere so I will discuss them selectively given the purpose of this paper (Langworthy, 2012). To provide the conclusion in advance the ITL findings: i) give shape to the issues, ii) add flesh to the direction that instruction should be going, iii) and show that ICT is integral to further progress. On the negative or limiting side the finding do not furnish iv) precision of pedagogy; nor do they tell us much about v) "how' the changes were accomplished and even less about how to get more of them. Let's turn to the content of the findings.

The core of ITL's findings is that effective teaching practices promote student centered pedagogy that contains five components: personalized/individualized, collaborative, student self-regulated, knowledge building, skilled communication. The findings are also remarkable in that they demonstrate that ICT plays a key role in deepening and extending the learning beyond the classroom into problem-solving and innovation. Furthermore, these practices positively impact 21st century learning skills of students. (There is a conceptual-methodological problem here in that the innovative teaching practices and the outcomes essentially but not completely overlap; the assessment outcomes are: knowledge-building, use of ICT, problem-solving and innovation, and skilled communication; you will recall that the ITL practices includes these four but also : personalized/individualized learning, collaboration (why isn't this an outcome?), and self-regulation.

Nonetheless the pedagogical practices identified in ITL are congruent with the high-yield practices that John Hattie (2009, and in

press) found in his mammoth meta studies of over 800 reviews. He found that the top (most impactful) teaching practices included:

- Reciprocal teaching (teachers enabling students to learn and use self-learning);
- Feedback (specific response to student work);
- Teaching students self-verbalization or self/questioning;
- Meta-cognition strategies (awareness and knowledge of one's own thinking);
- Problem-solving teaching

Hattie concludes that "these top methods rely on the influence of peers, feedback, transparent learning intentions and success criteria...using various strategies, attending to both surface and deep knowing". All of this is deeply congruent with the ITL findings which discovered that "teachers who use student centered pedagogies that develop 21C skills tend to use ICT more frequently" to integrate their teaching.

On top of this ITL's ecosystem model is comprehensive, that is, it is a 'whole system reform' model covering: the education system context. School leadership and culture, innovative teaching practices, and individual skills for life and work today. This enables the researchers to find that ITL is more likely to develop:

1. Where teachers' professional development focuses on research and practice of new teaching methods.
2. Where school leaders emphasize such methods.
3. Where teacher appraisals include the methods.
4. Where teachers collaborate.
5. Where teachers and students use ICT in higher level vs basic ways, and
6. Where students have access to ICT.

These findings too are congruent with what we know about school improvement. For the latter to occur school leadership must focus precisely on higher order instructional methods and create systems for teachers to learn together. They must in a word create a culture where 'learning is the work" (Fullan, 2011).

To conclude, the ITL research is decidedly on the right track. It unveils the nature of how deep pedagogies and supportive ecosystems work together to produce the 21C outcomes that up to the present time have been an elusive pipedream. However, this research is only a baby step. There are many key questions that now must be pursued which I take up in the conclusion.

Implications

First, the promise. It seems to be a good bet that ICT can be mobilized in the service of the four pedagogical criteria that I offered earlier, namely learning that is: engaging, precise, high-yield, and higher order. We ourselves are working on this very goal in a major initiative that we call, ML/Madcap which attempts to enliven the curriculum through engaging digital experiences (Fullan , Devine et al, 2011).

Second, in the ITL research we don't know how the particular teachers and schools actually got as good as they became. We do know that these teachers and schools are dispersed. There is more variation of ITL teaching within schools than across schools, although there are a few schools where the school culture promotes school wide results.

Third, the big question is how to go to scale or more accurately how to harness and enable the strategies that will result in the widespread presence of ITL practices that have been found in this research. Following our whole system reform knowledge my criteria would include: non-judgmental risk-taking , transparency of results and practice, the development and positioning of change leaders whereby peers learn from peers in a purposeful and measurable manner, and the identification of ITL practices that are intrinsically engaging for students and teachers, precisely described and captures, high yield in impact, and generative of higher-order learning.

To me this is becoming a more feasible agenda. What we are working on now is the integration of pedagogical and change knowledge. In short, we are in a position to discover learning methods and experiences that are deeply engaging, and that I am going to say easy to accomplish because of the potential power of ICT. For a change connoisseur nirvana is making substantial change easier. The research on ITL opens this dramatic door!

References

Fullan, M. (2010). *All systems go*. Thousand Oaks, CA.: Corwin Press; Toronto: Ontario Principals Council.

Fullan, (2011). Choosing the wrong drivers for whole system reform. Melbourne,AU.: Seminar Series 204, Centre for Strategic Education.

Fullan, M., Devine, D. Butler, G., Cuttress, C., Mozer, R., and Sharratt, L. (2011). Transforming education in a digital age. Toronto: unpublished paper.

Kennedy, G. (2011). The virtuous circle: The good politics of improving public education from Ontario. Banff, Alberta: The Aspen Institute Congressional Program.

Langworth, M. (2011) ITL research: Year 1 findings and future directions. Redmond, WA: Microsoft Partners in Learning.

Levin, B. (in press). System wide change in education. Paris, UNESCO, International Academy of Education.

Mourshed, M., Chinezi, C., and Barber, M. (2010). *How the world's most improved schools systems keep getting better.* London: McKinsey and Company.

Tucker, M. (2011). *Standing on the shoulders of giants: An American agenda for education reform*. Washington, DC.: National Center on Education and the Economy.