Learning lessons today for tomorrow’s policy making

Promethean Education Strategy Group
Education Quality & Economic Growth
Introduction

Education systems have always been affected by many pressures. One key influence today is the pressure to develop economically active and socially responsible citizens. This pressure has grown significantly as economies and societies change at a seemingly accelerating pace. Associated challenges arise from the changing nature of work. At one time, compliance was a dominant force in work. Now at the very least that compliance has to be mixed with creativity and innovation, particularly if there are fewer jobs than prospective employees. The acceleration of change seems also to be driven by information abundance and nearly ubiquitous technology. That information abundance and ubiquitous technology runs the risk of driving a wedge between the very purpose of education and the people ultimately responsible for its presentation, our teachers.

This paper explores education’s pressures and explains why we should think more deeply about the reality of the classroom today and how it should change for tomorrow. In reflecting on education and its presentation, we should recognize how learning and teaching typically appear in our schools, our best opportunities for change, and how we can plan paths to improvement through understanding three simple teaching and learning modalities.

External Trends Shaping Education

A good first step along the road to understanding and improving education could be to reflect on the circumstances in which all are seeking to operate today. The OECD’s publication series “Trends Shaping Education” brings together data from a range of important factors.

The “Trends Shaping Education” list includes:

- The dynamics of globalisation
  - New economic balances
  - Environmental challenges including climate change
- Transforming our societies
  - The rise of the megacity
  - Improving security and safety
  - Reinforcing democracy
- The changing world of skills and work
  - Reconciling family and work
  - Embracing the knowledge intensity of our economies
  - Continuing income inequality
- Modern families
  - The transformation of childhood
  - Balancing household budgets
  - Resilience of childhood expectations
- Infinite connections
  - Universal Internet access
  - The rise of portable devices and social media
  - The dark side of cyber space bullying and fraud
Some useful insights undoubtedly come from this data. For example, how communities are becoming more diverse as globalization grows and the number of international migrants in any location increases. The countries with the greatest proportion of international migrants are, in order, Israel, Luxembourg, Switzerland, Australia, New Zealand, Canada and Ireland. Each of these countries has more than 20% figures for the latest year (2010) recorded. Such diversity must surely have an impact on the needs for personalisation of learning in classroom, and perhaps on the development of teachers’ ability to deal with different language and culture.

A further set of trends or influences may result from international initiatives or comparison. For example the Millennium Development Goals may add a spur and support in some countries as they seek to meet these challenges, and the OECD’s Programme for International Student Assessment (PISA) which “aims to evaluate education systems worldwide every three years by assessing 15-year olds’ competencies in the key subjects: reading, mathematics and science.” Poor performance can focus effort and resources on improvement. Good performance may be celebrated or may act as a barrier to change as some might not wish to risk falling down the table.

Internal Trends Shaping Education

All of these factors are external trends shaping education. Are there also internal trends that we should surface and consider?

One such trend could be a growing recognition of the contribution that children themselves can make to their own education. We have been in a position where children were thought to need to learn how to learn, but we may be moving to a position where there is greater recognition of their learning skills. The thinking goes that by the time children enter school, they have usually already met and overcome the greatest learning challenge that they will ever face. Learning your first language may seem difficult, but you reflect that at the same time as learning that first language, a child has to learn concepts and meanings. Consider a table. How do children come to understand that a table is a table whether it has four legs, two legs or a central pillar, whether it is round or rectangular and whether it supports books or food? Learning all that is a considerable challenge, and perhaps we should all consider children as expert learners and therefore put more effort into developing their existing skills rather than teaching them anew.
This observation leads on to the role of teachers. When students first join a class, they haven’t been to school before and they don’t arrive carrying the burden of previous learners. They receive their learning diet through teachers. It doesn’t take seven years for a child to learn differently; it happens the very second they walk into their classroom. Teaching should at least partly be about developing the ability to understand where a child’s thinking is, to work out what motivates and inspires the child and to adjust teaching and learning strategy accordingly.

Curriculum, assessment, over-management and over control can limit the degree to which teachers can take on that role of understanding, motivating, inspiring and adjusting, therefore limiting the professionalism of teachers. It is perhaps interesting to reflect on teachers in Finland where the weight of external testing and grading is lightened and the responsibilities for assessment and development of curriculum are an important part of a teacher’s role and professionalism. It may be noted that the highest performing English-speaking system, according to PISA, is Alberta in Canada, where testing is currently being reduced.

Knowledge Transfer, Knowledge Community and Knowledge Sharing Modes

Teaching and Learning in Knowledge Transfer Mode

I wonder how many people would agree with the assertion that if you walked into a randomly selected classroom in any school in the world, there’s a strong chance that you would encounter a teacher standing at the front of the class, teaching and directing learning. Of course, the degree to which this is true will vary according to the subject being taught and the experience of the teacher concerned. It will also vary with the capacity of the learners to be able to participate in different learning scenarios.

Even if she isn’t at the front of the class, there is still a strong likelihood that the teacher is totally in charge of the knowledge, skill or particular piece of understanding that she wishes her learners to acquire. Let us call this mode of teaching “Knowledge Transfer”.

In “Knowledge Transfer” mode, students are organized by the teacher in the learning process and there is little choice for the learners. Producing differentiated activities
in “Knowledge Transfer” mode, while not impossible, is very difficult owing to the structure of learning. Feedback from learners is likely to be limited to the loud voices at the front of the class, or through random questioning. In both cases, most learners will miss the opportunity for feedback, and the teacher will not be in a position to adjust her teaching strategy to meet the observed needs of students.

However, the teacher is in complete control of the learning and the particular facts and figures that might be associated with the lesson’s learning objective. That control brings comfort to the teacher. From the minute the learners join the class to the moment they leave, all is planned and can be perfectly executed. Those who inspect lessons can assess the quality by scoring progress against the plan. In this mode of learning, teachers provide a lot of input, students are saved from having to think too much and can simulate learning through output such as maps, charts or repetitive exercises. There is little room for role-play, simulations or modeling.

**Teaching and Learning in Knowledge Community Mode**

Teaching and learning today with a modern teacher is different. The teacher may have an end game in mind, but has the professional confidence to allow learners to plot their own path from where they start towards their own authentic view of the target learning objective. In this case the teacher acts as the orchestrator of the learning journey, advising, cajoling and supporting the learners along the way.

In this case the teacher is not the owner of all knowledge, and is not expected to be. She is not embarrassed if she does not know the answer to a question and is comfortable seeking advice from the learners on what to do next. It may not always be clear what learning is going on, nor yet the skills used by the educator. However, it is clear that the teacher is still in charge and responsible for learning.

This is learning in “Knowledge Community” mode where the knowledge and skills within the class are activated, appreciated and used. In this mode, the teacher doesn’t hold the stage, but shares it. Mutual respect will allow her to take control if required, but trust enables learning to be active and responsibility for learning to be shared. Under these circumstances, students spend much more time discussing, modeling and experimenting. They spend less time producing limited-value output and more time discovering and learning. Unfortunately, perhaps, “Knowledge Community” learning is far more challenging to inspect and grade. The lesson plan is harder to see, and there appears to be a lack of a pre-ordained path and outcome. However, output is likely to be of higher quality and learning is more meaningful and memorable.

Students are much more likely to be engaged and motivated, because outcomes are initially uncertain then discovered.

John Hattie’s research led to papers on 'Visible Learning'5, 'Influences on Student Learning'6 and "the power of feedback"7. Hattie’s work investigates the effect of different teaching and learning interventions on student outcomes. In statistics, an “effect size” is a simple way of quantifying the difference between two groups, and therefore the influence of interventions in teaching and learning on students. Actions taken to motivate students through good relationships and high expectations, and to provide students with good feedback provide some of the most significant positive “effect sizes” in Hattie’s analysis.

Russ Quaglia’s research8 adds to this body of evidence and suggests a focus on the important areas of Engagement and Future Orientation, which takes in students’ aspirations and is reflected in quoted student comments such as “I think it is important to set high goals”, “School is preparing me well for my future” and “I am excited about my future”. The research indicates the extraordinary impact of engagement, which indicates that when students feel engaged, they are 14 times more likely to be academically motivated, and when their future orientation is addressed, students are 17 times more likely to be academically motivated.

**Teaching and Learning in Knowledge Sharing Mode**

A third mode is the “Knowledge Sharing” mode that lies between “Knowledge Transfer” and “Knowledge Community” modes. In “Knowledge Sharing” mode, learners work together in teams, collaborating in their work on projects that are aimed to meet learning objectives controlled by the teacher.
Technology in Knowledge Transfer, Community and Sharing

When it comes to Knowledge Transfer, technology might be used simply to find information through the Web, or teachers might use interactive whiteboards to transfer their knowledge to students.

In Knowledge Community mode, technology can be used to collaborate and explore. For example, multiple-user technologies could be used to allow joint production of documents or designs.

In Knowledge Sharing mode, technology can be used to link activities together.

Teaching for Knowledge Transfer, Community and Sharing

A teacher stranded in transfer mode will find the community mode of learning worrying and challenging. Skills hard learned and hard wired are for control of the class and effectively scripted learning.

Moving to the more fluid model of Knowledge Community requires quite different kinds of class control, skills in the arrangement of learning and drawing on feedback and planning what happens next.

It also requires an ability to step between transfer, community and sharing as circumstances require.

Yet today’s teachers are often expected to move between these modes of organizing learning with little or no support. So it is important for us to know where teachers are in this three-stage professional journey. We will find out soon.

Conclusion

The OECD’s Teaching and Learning International Survey 2014 will provide information about teachers’ approach to both teaching and learning. We should use this information to accelerate teachers’ ability to be able to judge, student by student and learning objective by learning objective, what mix of methods will work best. This is a complex task, and we should support teachers in understanding their own learning journey and making their own professional judgments as they develop their strategies and the actions they take to support learning.

In “Towards a New End: New Pedagogies for Deep Learning” Michael Fullan and Maria Langworthy state “We know the quality of teaching is the single most important in-school factor shaping learning outcomes.”. Perhaps there is something that should be considered about providing the space in which professionalism and quality can flourish.
References

1. OECD: Trends Shaping Education 2013
2. OECD: Trends Shaping Education 2013 Figure 1.2
8. Impacting Academic Motivation in Students (Based on 2012 My Voice Survey Data); Quaglia Institute for Student Aspirations; http://www.qisa.org/publications/docs/US_National_ImpactIndex_2013.pdf
9. Towards a New End: New Pedagogies for Deep Learning; Michael Fullan and Maria Langworthy; Collaborative Impact; June 2013
To empower teachers to deliver a learning environment that motivates students and improves education outcomes, education technology must:

- Foster student ENGAGEMENT
- Facilitate real-time FEEDBACK
- Enable student COLLABORATION

Jim Marshall,
the Formula for Student Learning Success
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Visit Promethean at BETT on Stand C116 to learn how we are harnessing the power of student motivation to bring it all together.