

Michael O'Sullivan speech

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Good morning, Your Excellencies, ladies and gentleman.

Let me go straight to the point. Nothing matters more than good teaching in education. But our view at Cambridge is that no amount of effort or expenditure directed at teacher training will yield good results unless essential factors **beyond the control of teachers** are in the right place. When I say "essential", what I really mean, to be specific, is: essential for creating a **focus on learning**. That schools should achieve a focus on learning may sound obvious. But in fact a focus on learning is often not achieved, or not sustained, in the classroom: that failure is what we are reflecting when we speak of "poor attainment" (despite vast state expenditures on education), lack of "college readiness" or deficient "employability". We mean children were in school for years, nations spent billions, but not much was learnt, at least not by some of the students.

We believe that the three most important factors, generally beyond the control of teachers in state education systems but essential to the achievement of a focus on learning are (1) **curriculum** – specifying what the curriculum should cover and creating a fit for purpose curriculum. Closely connected to the curriculum is (2) **assessment** – how do we make sure that assessment is clearly linked to our curriculum and supports it? Finally, we need to provide teachers with an **environment** which supports their work (3). There are many aspects to this, but with just a short time to comment today, I'll take **textbooks** as an example.

Before making some observations about what methods of teaching should be encouraged and developed, I want to share with you some propositions about what fitness for purpose of curriculum, assessment and textbooks means. Of course, if you make assertions about any aspect of education there will be some disagreement, and I would accept that we need to be sensitive about how we apply these generalizations in different cultural contexts. Still, I would argue that there is no prospect of achieving accelerated development of teachers by means of any intervention that merely addresses teaching alone, and leaves untouched deficiencies in curriculum, assessment and textbooks. Shortcomings in these areas will undermine progress, inhibit learning and drain value despite the best efforts of trained teachers.

Let me start with **curriculum**. What should we teaching? What should our students be learning?

When we are talking about curriculum we are of course talking about skills as well as knowledge. My colleague on this panel, Andreas Schleicher, has done some crucial work in this area. He has suggested that, in an uncertain future, people will not only need knowledge, but they'll need to be able to interpret and communicate that knowledge. They'll need to be collaborators and innovators. They'll need to be creative. These are important things to remember when designing our curriculum.

When we look at the research evidence, we can reach some broad conclusions about what makes a good curriculum. Studies show that children benefit from a good grounding from the primary level in a core curriculum. The evidence suggests, for example, that primary school children who have a good grounding in maths are more likely to succeed in English as well. **This emphasis on a core curriculum at primary level** can ultimately lead to economic and social benefits.

A good curriculum needs to present opportunities for subjects to be studied in depth as well as breadth. Some have used a table with legs as a metaphor for this breadth and depth, where the table top is the coverage of knowledge and the table legs represent the depth in a few topics.

It is this depth of learning that allows students to make the connections that give them a mastery of their subject area. In our work, we have found that universities around the world particularly value students who can demonstrate this deep learning. It is rare for a curriculum to focus on depth at the expense of breadth, but fairly common, unfortunately, for a curriculum to cover a broad range of knowledge without looking at any of it in depth.

What this comes down to is a need for real depth in core curriculum subjects, in particular maths and language, and this inevitably means limiting the breadth of the curriculum in ways which may not satisfy all interest groups in society.

This brings me to the next aspect of our focus on the content of learning – **assessment**. Once we have designed our curriculum, we need a way of assessing that learning has taken place. Are we teaching what we think we are teaching? Are students acquiring the knowledge and skills that we think they are learning? Have we got our curriculum right? How many tests should we have? Should we test at the end of a course or in the middle of a course as well?

We need assessment that gives students the opportunity to demonstrate what they know, what they understand and what they can do. Universities and employers also need our assessment to be a reliable measure of a student's achievement in a subject. So we need to design an assessment system that is directly linked to our curriculum.

I've asserted the importance of designing a curriculum that gives opportunities to students to learn about their subject in some depth. It's therefore equally important that the system of assessment requires students to demonstrate that deep learning. A form of assessment that simply tests students' breadth of knowledge – a common feature of some traditional public examinations unfortunately - will not serve this purpose.

There will always be "teaching to the test", where test results have consequences for students and schools. This can have negative consequences for learning. But these negative consequences can be mitigated in two ways,

- Assessments should strike a balance in testing knowledge and skills, not focussing on knowledge recall simply because it is easier to assess reliably and easier to mark the assessments (by man or machine).
- High-stakes exams and tests should be used sparingly. Endless external testing is expensive and counter-productive. Regular testing should be formative in character,

low-stakes and as far as possible its use should be within the control and discretion of teachers themselves.

Moving on to the last of the three aspects of our focus on the content of learning – the **supportive environment** – I said I would take **textbooks** as an example, as time is limited.

Before Christmas, there was a debate in the UK about textbooks and the extent of their use in UK schools. We were closely involved in this debate, as it was prompted by a paper written by a colleague of mine, Tim Oates, our Director of Research at Cambridge Assessment.

There are a couple of questions worth asking here. What is a good textbook for? And what are the qualities of a good textbook?

Again, there is evidence from research that answers the question about the purpose of good textbooks. They support good teaching and good teachers. It is interesting that research has found that the best teachers around the world tend to be teachers who are very keen on using textbooks. And good textbooks also supply the details that can give clarity to a national curriculum. In his speech about Tim Oates's paper on textbooks, the UK Minister of State for Education Nick Gibb said that textbooks can help teachers to transform their classes, and are critical for raising standards.

Tim's paper answers the question about the qualities that make a good textbook. I'll just pick out two or three of his conclusions. Good textbooks have a precise focus on key concepts and knowledge – that is the breadth and depth of knowledge that I mentioned earlier. There is a clear sense of how students make progress in these textbooks. And they stimulate students to reflect on what they are learning.

The best textbooks, therefore, can provide teachers with a supportive environment in which to work, and this environment, together with our curriculum and its linked assessment, completes our focus on the content of learning.

So, if we have specified our curriculum, balancing breadth and depth of subject knowledge. If we have designed an assessment system that is closely linked to our curriculum and supports it. And if we have created a supportive environment for teachers with excellent textbooks and learning materials.... What then to do about teaching?

Teachers can't be taught in a vacuum and we now understand the context in which improving the quality of teachers can take place. This should be built into both pre-service and in-service training. It is also vital that the culture of school leadership is consistent with this approach to training, and that the whole programme is not let down by school leaders who are resistant to it.

My organisation, which works with schools around the world, is well placed to understand the value of high-quality teacher development. That is why we have recently worked with many of those schools to redevelop our professional qualifications for the teachers delivering our qualifications.

To do this we reviewed a wide range of evidence-based research, including work from Robert Coe and his colleagues at Durham University and Helen Timperley's research for the

International Bureau of Education – part of UNESCO. We then worked with UCL Institute of Education, here in London, to develop the qualifications.

After this work, we're in a position to make some hard assertions about what constitutes excellent teacher professional development – professional development that has a positive effect on students' learning. I'll share three examples with you.

First, effective professional development must give teachers a chance to reflect on what they have learnt and to translate it into practice. They need to ask the question: "What do we as teachers need to learn to promote the learning of our students?" And it's crucial that they are able to see the impact of these teaching activities on the outcomes of their students.

Second, excellent professional development must include innovation and collaboration. The research shows that teachers who share ideas and work closely with colleagues are best placed to introduce new ideas about teaching into their practice.

And thirdly, effective professional development must be supported by people with expertise. Here, the expert may come from within the school, such as the principal, or it may be a teacher or a researcher from outside a school. But external experts are crucial. They are able to challenge assumptions and present teachers with stimulating new possibilities.

So, finally, after we have accelerated the improvement of the quality of teachers, what are these teachers like? What makes them great teachers? The Durham research looked at this. Two factors stood out. The first of these is content knowledge. The strongest teachers have an excellent knowledge and understanding of their subject, and this makes a powerful impact on their students' learning.

And the other factor in great teaching – and this underlines the vital importance of teacher improvement programmes – is the quality of instruction. Great teachers ask effective questions and use assessment well. Great teachers review previous learning, they make sure that their students have the time to practise their skills, and they introduce new learning in a progressive way.

You'll notice that at Cambridge we place our faith in the professional status of teachers – teachers who have deep expertise, who are independent and who are creative. Teachers who reflect on how they can get the best out of their pupils. When we develop our support for teachers, we consider the attributes of outstanding teachers – they are confident, responsible, reflective, innovative and engaged.

Recently claims have been made that top-down, high efficiency delivery systems can transform a nation's educational prospects – a system where the same lessons are delivered to hundreds of schools across a country, and teachers are primarily required to conform to standard lesson plans and trained to do so.

It's easy to see why this can be an attractive idea for governments – it can be controlled easily, and can be introduced system-wide quite quickly. Teachers can be trained in short periods and there is much less need for finely tuned professional skills and deep subject knowledge acquired over long periods of study.

And so I'll end on a cautionary note. Attractive though it might seem, this sort of delivery system has severe limitations. It is likely to inhibit longer term efforts to build a highly skilled,

professional teaching body able to understand learners and adapt pace and method of teaching to learners needs.

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