MACGILL SUMMER SCHOOL

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1ST AUGUST 2013

INTRODUCTION

For whatever reason, social, cultural, or historical, education means a lot to Irish people. We prioritise education above all else. And this was a clear conclusion of the comprehensive ‘Vital Signs’ survey (published in Jan 2013) which asked respondents to rank their priorities which most affect their quality of life. Of the 119 priority options presented to respondents, eight of the top 10 items listed related to education and learning, with:

- the quality of the education system;
- literacy levels;
- universities and third-level education;
- and early childhood education topping the priority rankings in that order.

We are living through a period of unprecedented challenges to our nation. In this regard, the role of education in determining our future in both societal and economic terms was never more important. Our fundamental values, our creativity, our innovation and the quality of our shared society all rely heavily on the quality of our education system. And it too is facing serious challenges and significant changes both nationally and internationally.

A high quality education system will be central to Ireland’s social and economic recovery. Moreover, faced with our current economic situation, we have a particular responsibility to innovate in order to transform our education system in a manner that moulds a new generation of graduates that will deliver a new Ireland. Properly prepared, our greatest national resource is the intellectual capital emerging from our education system.

This afternoon, I am going to explore the link between education and economic prosperity.

I will analyse what an excellent education system means in the 21st Century and, finally, I will focus on 4 key elements of our own education system that critically need to be addressed if we are to have real aspirations that Ireland will flourish again.

EDUCATION & ECONOMIC PROSPERITY

Let me be specific about the issue of economic prosperity.

There is a reasonably strong relationship between education and economic growth, typically characterized by the gross domestic product (GDP). Research shows that there is a strong correlation between a country’s tertiary enrolment ratio and economic strength (GDP per capita).

A more sophisticated analysis by Hanushek (Stanford University) has produced some remarkably simple but clear conclusions. Detailed evidence in his report shows that the quality of education – measured on an outcome basis of cognitive skills – has powerful effects. Many publicised reports on this issue concentrate solely on the level of education attainment, or the quantity of schooling/education, and this simply distorts the analysis and the policy discussions.

Individual earnings are systematically related to cognitive skills. The distribution of skills in society appears to be closely related to the distribution of income. And, perhaps most importantly, economic growth is strongly affected by the skills of workers.

So the quality of education is causally related to economic outcomes. A more skilled population – almost certainly including both a broadly educated population and a cadre of top performers – results in stronger economic performance for nations.
An Education System Should be About More Than Economic Prosperity

In addressing the role of an education system, I believe that we should focus on the individual student and emphasise that the primary purpose is to enable students to flourish in the challenging world of the 21st Century – in their personal lives, in civic society, and in the workplace.

In enabling students to flourish and realise their full potential, we seek to
- stimulate curiosity and creativity
- foster a sense of wonder

As Noam Chomsky put it in a recent interview: “Education should be about encouraging creative exploration, independence of thought, and willingness to cross frontiers.” It should be about “enabling people to learn on their own”.

What Make an Excellent Education System?

Any discussion about the best education systems worldwide almost always emphasizes Finland.

Why Finland?

Finnish students have consistently scored among the top in the world on standardised tests such as PISA (Programme for International Student Assessment). But, beyond that, Finland ranks:
- No. 3 in the world for Economic competitiveness,
- No 4 in the world in the Global Innovation Index, and
- No 1 in the world for Technological Advancement

While learning from Finland, we have to acknowledge that cultural and societal differences can play a large part. Benchmarking against countries such as Finland does not, of course, mean we should copy others exactly. But it does mean we can always learn from them, and adapt what we learn to our own purposes.

Following the break-up of the Soviet Union in the early 1990s, Finland (which then had a predominantly agrarian economy) experienced a severe recession, not dissimilar to the current difficulties in Ireland. Unemployment climbed from 3 per cent to 18 per cent in two years. GDP dropped 13 per cent at the same time and Finnish public spending reached close to 70 per cent of the overall state budget.

The Finnish Government of the day bravely decided that increased investment in education was the roadmap to recovery. The result? Finland emerged quickly from recession, built a highly-skilled workforce, and today boasts one of the finest education systems in the world. So what are the characteristic features of their education system?

Finnish education expert Pasi Sahlberg has written that Finnish schools are based on "improving the teaching force, limiting student testing to a necessary minimum, and placing responsibility and trust before accountability." Teachers in Finland go through a rigorous selection process, and then five years of study. All teachers have at least a Master’s degree in education and their subject areas of expertise. There is high confidence in teachers and principals as respected professionals.

Children too are not subject to examinations till the end of schooling (around age 19). Of course they all work towards that final examination, but the absence of high stakes testing in the intermediate years gives them the space to explore, discover, learn, share and absorb. And to find their own interests and abilities. In Finland, there is relatively little stress in the education system and private tuition is unheard of. When school ends, so do the lessons. [Can we imagine a system without grinds?? The Leaving Cert grinds industry here in Ireland is estimated to be worth €20-40 million a year.]

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5. WHAT ARE THE KEY ISSUES FOR IRELAND?

Although a number of good developments are currently underway in the Irish education system (and I am sure the Minister will tell us about these later!), I want to focus on 4 major problem areas that need to be addressed as a matter of urgency. In each case, I will highlight the problem and recommend solutions.

A. ATTRIBUTES
Students today live in an entirely different world to the one that existed 10, even 5 years ago.

I believe that we must develop a new type of rounded, innovative graduate for a rapidly changing society. They must be able to compete effectively in a global marketplace. They must be able to create their own future. Such is the pace of change and unpredictability of the future that one of the key characteristics that graduates must have is adaptability to change.

So, in addition to the disciplinary knowledge, we must equip our students with a set of personal skills that will enable them navigate the particular challenges of the coming decades - skills such as leadership, creativity, critical thinking, innovative problem-solving, entrepreneurial principles, sense-making of information (digital intelligence), and global awareness.

I mentioned earlier that the primary purpose of education is to equip students for success in life – in the workplace, in civic society and in their personal lives. So equipping students for success in life (and especially in the workplace) now means shaping adaptable, globally-aware, innovative and digitally-intelligent graduates.

These 21st Century attributes should supplement (not supplant) the disciplinary expertise and insight inherent in any formal academic qualification and should be underpinned by core competencies in literacy and numeracy. The paradigm of a ‘job for life’ or ‘lifetime employability’, with a particular dependence on generic skills. It is imperative, therefore, that such skills are integrated into every level of the education continuum, and developed in a consistent manner.

It is very clear that we could achieve much more from our national education system if we established a coherent approach and aligned our objectives along all the elements of the education continuum. Many of the problems we are now facing arise from the incoherence in our approach and they become very evident at the transition points, e.g. from primary school to secondary and, especially, from secondary to third level. Surely it should be relatively straightforward to agree on the overall outcomes desired from our education system and to align these objectives at every stage along the education continuum?

In this context, it is somewhat surprising (shocking even?) that, currently, there is no overall strategy in place for our education system! We need to establish such a strategy that would take a system-level view of what we want to achieve for all our students and ensure that all stages of the continuum of education are acting coherently with common objectives.

B. ASSESSMENT
Any discussion around developing attributes in students brings us logically to the critical issue of assessment.

“What you assess is what you get; if you don’t test it you won’t get it.”

These words from psychologist Lauren Resnick, first quoted in a seminal paper by Wiggins (1990), have appeared time and again in the education literature. Stated another way, the nature and focus of the assessments used in education drives both learning and teaching behaviour. We all understand the concept of ‘teaching to the test’ and students certainly take seriously only those topics that are assessed regularly in examinations. If we want to develop specific attributes in our students, we need to assess those attributes!

Two years ago at the MacGill Summer School, I highlighted the CAO points-Leaving Certificate combination as the greatest negative feature in our education system because of the nature of the teaching and learning behaviour that it
produces – promoting rote learning and regurgitation, for example.

Since then, with the encouragement of the Minister, the Universities (who own the CAO system) have been actively engaged in transforming the Points system and dramatic changes are on their way in the near future. But the other half of that equation needs to follow quickly. The ‘high stakes’ single terminal examination approach that is the Leaving Certificate is more appropriate to the 19th Century than a modern, innovative knowledge society.

And, as we move from knowledge, content-based objectives to attribute and skill development, we need to develop and implement more sophisticated and innovative assessment modalities, some of which can employ the digital technologies that play such a central role in our world.

Properly developed, we can move from ‘assessment of learning’ to ‘assessment for learning’, whereby the assessment itself can be used as a tool for improving learning. We need to introduce such formative testing, that focuses on how a young person is learning as they undertake the task. Formative assessment provides teachers with information with which to modify or change the teaching and learning activities in which students are engaged.

In contrast, summative testing (such as the Leaving Certificate) promotes rote learning and a tactical approach on behalf of the student.

So how are we going to change things around?

As a matter of urgency (and certainly before the full roll-out of the new Junior Cycle curriculum happens), we need to establish a major national resource in assessment – carrying out research and policy development in innovations in assessment methodology. Such a resource, which should play a key role in both teacher education and national examinations, has the potential to have a major transformative impact on our education system and the quality of learning within it.

C. DIGITAL LEARNING

The world of education is undergoing a revolution. We are undergoing a major transition from teaching and learning, based on the fifteenth-century technology of the printed word, to twenty-first-century interactive technologies that offer the potential for enhanced, adaptive, and personalized learning on a global scale.

People born after 1990 have never known life without the Internet. They are the Google Generation, the Digital Natives, and, for them, digital technology is as integral to learning as it is to their social lives. The art of learning has changed completely.

Let me give some examples of the impact of this revolution:

At Stanford's medical school, 70 percent of formal instruction now takes place online.

- This dramatic shift will become more general as Web-enhanced, blended classes become the norm.
- In 2015, nine out of every ten jobs will require full competency in e-skills – digital literacy.
- The President of Stanford University, John Hennessy, likened the impact of Digital Technology to a “tsunami coming.”

And what is Ireland doing about this? Do we have a Strategy for Digital Learning? No.

The Minister for Communications, Energy and Natural Resources, Pat Rabbitte recently launched the National Digital strategy. ‘Education and eLearning’ is one of the 3 main strands of the Strategy but this is somewhat underwhelming. It highlights the rollout of ‘100 mbs to all post-primary schools’. This is helpful but, without an accompanying education strategy, it is like building a road to the school and forgetting what happens thereafter.

There is a certain irony in the fact that the biggest development in digital education in Ireland has come from an 18 year old from Cork just after completing his Leaving Certificate - James Whelton and CoderDojo.

We need to do a lot more! Or we risk leepwalking through the greatest revolution in education history. I would encourage the Minister to establish a National Digital Learning Strategy and Implementation Plan as a matter of urgency.

4. UNSUSTAINABILITY OF THE HIGHER EDUCATION FUNDING SITUATION
I mentioned earlier that there is a strong correlation between economic prosperity of a nation and the quality of its education system. The university plays a particularly important role in this regard in areas such as:

- Development of highly skilled human capital that meet the skills needs of a knowledge society
- Carrying out high quality research that promotes innovation and supports entrepreneurship
- Supporting the attraction and retention of Foreign Direct Investment

Let me give some specific evidence to back this up:

- In 2012 there was an investment of 500 million euro in research and development by IDA-backed companies. Such investment is heavily dependent on the human capital produced by higher education as well as the direct interaction between universities and companies in the research sphere.
- Last year, three quarters of all foreign direct investment into Ireland came from the US. One of the main reasons for this investment is Ireland's 12.5% corporation tax, but the American Chamber of Commerce Ireland (that represents most of the major US multinationals here) has argued recently that, on its own, low tax is not enough to attract multinationals. The President of AmCham, Peter Keegan, recently highlighted the importance of the quality of Irish graduates and stated, "You can't run a massive biomedical facility here just because of taxes".
- This year, in the 'National Survey of Employers' Views of Irish Higher Education Outcomes', over 75% of companies expressed confidence about graduates having the right workplace and transferable skills and relevant subject or discipline knowledge.

While these indicators endorse the role and impact of Irish universities, we should not be complacent, because on the ground in our institutions serious alarm bells are sounding. There is grave concern that we are sliding down a quality precipice from which it will be difficult to return.

Why is this? To answer this we need to look at the combined financial and demographic issues facing the 3rd Level Sector.

- Exchequer investment in 3rd Level education: €1.5bn
- Number of students in 3rd Level education: approx. 170,000

In the period from 2008-2011, core exchequer resources into the universities fell by approximately twenty percent. More recently we have seen further reductions of the order of a further seven percent.

The full impact of this is only seen when one looks at the demographic developments. Taking current data and the projections from the most recent report from the Department of Education and Skills, we expect an overall increase of new entrants of 24 percent up to 2030.

This combination of rapidly increasing student numbers and rapidly falling exchequer investment starkly conveys the simple fact that our current funding model for post-secondary education is unsustainable. (Indeed there may be aspects of our first and second level model which are also unsustainable but I will confine myself to the post-secondary domain.)

In addition to this, driven by the Employment Control Framework and increasing student numbers, there have been sharp increases in the student: staff ratios (SSRs) across all Irish universities, reaching values now in the mid-20s. Bearing in mind that the most relevant World University Rankings systems (THE and QS) both use the SSR value as a proxy measure of Teaching Quality, that mid-ranked UK Universities have SSR values around 14, and that world-renowned universities typically have values around 8, it is clear that we have great cause to be concerned.

**So, what should we do?**

Above all else, we must continue to pursue standards of high quality and excellence across our university system. But, we simply cannot (continue to) ignore the fact that the current funding model for higher education is broken. We already have a highly massified system which, in macro terms, is highly efficient in terms of the scale and quality of its outputs. The system has shown significant elasticity in increasing outputs with declining exchequer financial inputs, but it cannot be infinitely elastic.
We urgently need a new model. Without it we are condemning ourselves to a race to the bottom. None of us (neither the Minister nor institutional leaders) want that as our legacy.

None of us want to preside over a slide into mediocrity – which is inevitable if we do nothing!

The additional resources required to meet demand and support quality can be provided by adopting one or more of the 3 options below. None of these is ideal or particularly palatable but we are faced with Hobson’s choice.

a) Increased Student Contribution: The rationale for this option is that the funding of HE should reflect the public benefit and the private returns (individual benefit) from HE. Funding should therefore entail an appropriate cost sharing between the Exchequer and the student. If we accept the fact that the state has no more resources to give for now, then we are faced with the inevitable conclusion that the solution lies in increased private (individual) investment.

In addressing the potential implications of this option on equity of access, we should note that currently approximately 44% of students have their student contributions paid by Local Authority Grants. In order to deliver this option, we are likely to need a loan system whereby the repayment of loans only begins after the student has left higher education and the amount to be paid depends on his or her income (so-called income-contingent loans).

b) Increased Income Tax: The rationale for this option is that HE is a Public Good and our society and our economy benefit significantly from a high quality HE system. In order to highlight that aspect, such an increase should be an additional hypothecated tax – clearly expressed as a HE levy (not a generalised increase). As an example of such an approach, 0.7% of PRSI goes to the National Training Fund.

Public/Private Hybrid HEIs: This model requires agreement on the appropriate unit of resource per student required to drive a high quality HE system. Consequently, the current exchequer funding base would only be capable of supporting a specific number of students (which is lower than the current number attending HEIs). Under this model, one would need to specify clearly the profile of students benefiting from state funds. In particular, in order to preserve the “equity of access” principle, one could give priority to students from socio-economically disadvantaged backgrounds.

Institutions would then be allowed to charge full economic cost fees for additional places over their base state-funded allocation. Under this model, and allowing for access initiatives, the quota of state-funded places would be allocated in the normal way via the points-based admissions system, with such students pay the normal student charge.

The biggest argument against this is a social equity one since it gives the impression that those who have sufficient means can buy their way into university. The social equity argument, however, takes on a different complexion if it is accepted that the Irish system cannot expand indefinitely with shrinking state resources. Looked at in this context it can be argued that those with the means are actually paying a premium to maintain quality in the system – a quality premium enjoyed by all students and thus the measure is actually progressive rather than regressive.

**CONCLUSION**

A high quality education is crucial if we wish to provide a sustainable platform for our return to prosperity. Key actions that need to be taken as a matter of urgency:

1. Establish an overall strategy for the Irish education system treating education as a continuum and focusing on the attributes desired in our students at every stage.

2. Develop a national Centre for Research & Policy Development in Assessment

3. Establish a Strategy and Implementation Plan for Digital Learning

4. Address the serious issue of the financial sustainability of our Higher Education System.