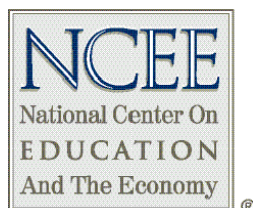


Irish Education Report

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Irish Education Report

Ireland has one of the highest educational participation rates in the world. Today almost half (48 percent) of the Irish population has attained college-level education, compared with less than 40 percent in countries such as the United Kingdom, United States, Spain, Belgium, and France. Eighty-one percent of Irish students complete secondary school and approximately 60 percent go on to higher education. Irish students performed well on the OECD PISA 2003 Assessment, scoring significantly higher than the OECD average in reading literacy and science.

Ireland is a parliamentary democracy of just over 4 million people (about the same number as Brooklyn) which has in the last twenty years undergone profound changes in its economic structure, transforming itself from an impoverished agricultural nation to a premier provider of human capital. The 1994-2000 period was one of unprecedented economic growth, with employment expanding by 40 percent as businesses tapped into the surplus of highly skilled workers available at a relatively low price.

It is no wonder that so many international companies -- in industries ranging from computers to pharmaceuticals, from financial services to telemarketing -- look to Ireland again and again when hiring graduates and making location decisions for entrée into the European market.

But Ireland couldn't have had the recent successes it has had without a solid foundation to build on. Education has always been highly valued in Ireland. And more than 40 years ago, the country began a concerted effort to increase educational participation rates and introduce programs that would match the abilities of students to the needs of a global economy. At the same time, the country started making its already demanding K-16 education system more rigorous, creating links between industry and education and formalizing and supporting workplace education.

Education Policy

Thomas Kenneth (Ken) Whitaker is often credited with spearheading what amounted to a policy revolution in Ireland in the 1950s. As Secretary of the Department of Finance, Whitaker produced a comprehensive study of the economy and a set of corresponding policy recommendations in his "Economic Development" proposal. Believing that protectionism was outmoded, he recommended that public monies be concentrated on attracting foreign capital and increasing the competitiveness of Irish industry by scaling down protective tariffs and building up the export market. His paper is regarded as a landmark in Irish history and one that mapped the course of modern Ireland.

Key to some of the thinking behind Whitaker's report was Paddy Lynch. He himself contributed two important writings: "Investment in Education" in 1965, and "Science and Irish Economic Development" in 1966. With these papers, Ireland made the commitment to providing free, universal, secondary education in 1967.

With the release of Whitaker's paper, Ireland adopted a policy of enthusiastically seeking membership in the European Community (now the European Union). And since joining the EU in 1973 Ireland has received over euro17 billion in EU Structural and Cohesion Funds support. By integrating this infusion of funds into a coherent policy focused on strengthening the country's human resources, education and training system, Ireland was able to build a highly qualified labor force available at relatively low wages by European standards. This coupled with the country's efforts in the 1980s to balance its budget, reduce the debt, and establish a low corporate tax rate meant that Ireland was able to successfully attract a significant amount of foreign direct investment (\$157 billion in 2002).

With industry's arrival, Ireland's tertiary system which was being updated and improved upon using the massive investment of EU funds, reached out to business to ensure that the pipeline of new workers would meet the immediate technical skill needs. And the emphasis today on growing R&D investments continues to solidify linkages between higher education institutions and industry.

In 1991 the government identified education as a major component of national policy and a central plank in the economic, social and cultural development of Irish society. Tapping into the public's interest in improving education, the Minister of Education adopted a highly consultative approach and invited all stakeholders in education to debate and foster consensus. This process generated a white paper outlining government policy on primary, post-primary and tertiary education. And in 1995, Ireland committed to providing free, competitive and vastly expanded college and university level education to its citizenry. On the legislative end, two comprehensive education acts were signed: the Irish Universities Act (1997) and the Education Act (1998).

Financing

The school system is financed almost exclusively from central government funds (with local funds as supplements) which cover the building and maintenance of schools; teacher salaries; teacher education and professional development; and the majority of school transportation costs. Parents are generally responsible for schoolbooks and materials, with support available to families in need.

While Ireland's actual expenditure on education has been on the rise, it has not kept pace with the very high increase in GDP in recent years. Public and private investment in education in Ireland in 2001 was around 4.5 percent of GDP, well behind Korea at 8.2 percent and the USA at 7.3 percent. In terms of average spending per student, Ireland has relatively low levels of investment at all stages in the education system. Of particular note is the low investment in pre-primary education (0.1 percent of GNP in 2000)¹ compared with most other advanced economies.

¹ National Competitiveness Council, Annual Competitiveness Report 2004.

And, as alluded to earlier, Ireland very shrewdly used the massive infusion of EU funding to shore up its university and regional Institutes of Technology, creating a world-class third level system.

Governance

Responsibility for education lies within the Department of Education and Science. The Department sets the general regulations for the recognition of schools; prescribes curricula; establishes regulations for the management, resourcing and staffing of schools; and negotiates teachers' salary scales. Recently ten regional offices were established to make the Department more accessible to the public and to spread out responsibility for the day-to-day operation of the education system.

The National Council on Curriculum and Assessments' role is to advise the Minister for Education and Science on curriculum and assessment for early childhood education and for primary and post-primary schools. Funding for the NCCA is by way of a grant from the Department of Education and Science.

The teaching force in Ireland is highly unionized, with 98 percent of primary teachers and 91 percent of post-primary teachers members of the teacher unions. The Irish National Teachers Organization (INTO) exists for primary teachers, while the Association of Secondary Teachers of Ireland (ASTI) and the Teachers Union of Ireland (TUI) cater to post-primary teachers. The unions are well organized and provide a wide range of services to their members. They have strong negotiating power and are important players in education reform efforts.

The majority of schools is privately owned and managed institutions with funding from the state. Ireland is a Catholic nation, with 92 percent reporting Catholic affiliation. The church was the primary educator for centuries, and today religion classes continue to be mandatory through Junior Certificate.

Parents are directly involved in the running of schools through school management committees which serve as the governing boards of the schools, responsible for hiring teachers, maintaining school facilities, etc. Members are elected by parents of the school and typically comprise two representatives of the trustees, two elected parents, two teachers, and two members of the community.

There are a few private primary schools, which do not receive state support and are not bound by state regulation or inspection, but they generally follow the national curriculum. These schools account for less than two percent of the primary school-going population.

Attendance at full-time education is compulsory from six to sixteen years of age and is free in the majority of schools, and at undergraduate third-level. The Irish education system was traditionally divided into three basic levels: Primary (8 years), Secondary (5 or 6 years) and Third Level, which offers a wide range of opportunities from post-secondary courses, to vocational and technical training, to full degree and post-graduate levels. In recent years, the focus has expanded to include pre-school education and adult

and further education, in support of the concept of lifelong learning. About 60 percent of 4 year-olds and 95 percent of 5 year-olds attend the national (primary) schools.

Apprenticeship is on the rise: There are about 23,000 registered apprentices in the country, up from just 10,000 in 1996. This movement is credited with generating high quality craft and trades persons who are contributing to the Irish economic resurgence. Apprenticeship in Ireland is organized by FÁS in cooperation with the Department of Education and Science, employers and unions. The apprenticeship scheme is standards-based with alternating phases of on-the-job and off-the-job training in FÁS Training Centers and Educational Colleges. Upon completion of the program, apprentices earn craftsperson status and receive a National Craft Certificate, recognized in Ireland as well as other EU and non-EU countries.

Primary Schools

There are over 440,000 children in first level education with a total expenditure of euro 1.853 million (2002). A dramatic 35 percent decline in the number of births between 1980 and 1994 has produced a drop in student enrollment. This presents some opportunities for Ireland to focus on quality enhancements now that it has achieved its scale-up goals, particularly at the secondary level. As of now, immigration is not much of an issue as most of the immigrant population is adults coming for work without their families. The K-12 student population remains relatively homogenous at this point.

The majority of Ireland's 3,200 primary schools have four or fewer teachers. The typical primary school organizes students ages 6 to 11 into year-groups or classes, but some 16 percent of classes are multi-grade classes.

Throughout the 1990s, the National Council for Curriculum and Assessment (NCCA)² worked on the preparation of a revised primary school curriculum, which was introduced in 1999. The curriculum comprises six main areas:

1. Language (includes Irish and English)
2. Mathematics
3. Social, Environmental and Scientific Education
4. Arts Education
5. Physical Education
6. Social, Personal and Health Education

The subject matter of these curricular areas and pedagogic approaches are set out in a suite of 23 documents published by the Department of Education and Science. The revised curriculum has been very warmly received and the teachers provided with related in-service education. Teachers are encouraged to implement a wide variety of teaching methods and to carry out their own assessment of pupils' performance. There is no

² The Council has a full-time directorate and staff. Its curricular sub-committees are comprised of representatives of key stakeholders such as Department of Education and Science and State Examinations Commission, teacher unions and school managerial bodies, parent organizations, subject associations and higher education interests including universities and other colleges.

formal examination at the end of primary school, but primary schools are requested to prepare formal report cards for students as they transfer to post-primary school.

Post-Primary Schools

The introduction of free post-primary education for all in 1967 was a seminal moment in Ireland's socio-economic history. In 1965 only 20 percent of the population completed secondary level schooling. In 2002, about 80 percent of the Irish labor force were secondary school graduates.

Expenditure on education per second level student in Ireland increased in real terms by 38.1 percent over the period 1998 to 2003, though it remains behind the level of other OECD countries.³

One of the most highly regarded aspects of Irish second-level schools is the broad-based curriculum. Building on the foundation of primary education, second level education aims to prepare students for higher or continuing education or for immediate entry into the workplace.

The post-primary school is predominately a six-year cycle, with students entering at age 12 and earning a Junior Certificate at age 15 or 16 and a Leaving Certificate at age 17 or 18. While elementary/national schools are always coeducational, the majority of high schools are single sex.

In 2001-02 there were more than 340,000 students in second level education, with funding exceeding euro2.063 million. Ireland's student teacher ratio is higher than the OECD average. The most recent figures on class size at Junior Level show that approximately 35,000 students are in classes of more than 30 and up to 90,000 are in classes of more than 25.⁴ With Ireland only recently significantly increasing the number of students served by the schools, it is not surprising that class size remains high.

There are four main categories of public post-primary school:

1. Secondary schools (usually owned by religious groups or organizations) leading towards university
2. Vocational schools (administered by local authorities) leading most often to apprenticeship or work
3. Comprehensive/community schools (established by the State and owned by partnership boards of trustees) leading most often to technical colleges
4. Special needs schools

About 350,000 students attend 450 secondary, 250 vocational, and 100 other schools, about two-thirds of which are owned and managed by groups with a religious affiliation. While each of these evolved from a distinctive historical context, they all follow the same prescribed state curriculum, require the same public examinations, and have classes taught by similarly qualified teachers who are paid based on the same salary scale.

³ National Competitiveness Council, Annual Competitiveness Report 2005.

⁴ OECD Education at a Glance 2005 data cited in an ASTI Press Release, September 14, 2005.

Post-Primary Curriculum

The curriculum consists of a three-year Junior Cycle that ends with a Junior Certificate Examination followed by an optional Transition Year and then a two-year cycle that culminates with the Leaving Certificate Examination. Post-primary schools decide on the range of subjects taught, the selection of programs offered, and the choice of textbooks.

The Junior Certificate Program is designed to meet the needs of all students. Therefore, every class is offered at two levels, ordinary (non-honors) and higher (honors). In the case of English, Irish and Mathematics, a foundation level course is also available. Courses include: Art, Craft, and Design; Business Studies; Civic, Social and Political Education; Classical Studies; English; Environmental and Social Studies; French; Irish; Geography; German; Greek; History; Home Economics; Italian; Latin; Materials Technology Wood; Math; Metalwork; Music; Physical Education; Religious Education; Science; Social, Personal and Health Education; Spanish; Technical Graphics; Technology; and Typewriting.

Note: Science syllabi in chemistry and physics have recently been revised in Junior and Senior Cycle with a greatly increased emphasis on hands-on student imaginative work and on the application of science process skills in student activities. Some are concerned that while a significant proportion of second level students study science at Junior Cycle level (50,000 students), only 80 percent of those numbers continue to pursue science subjects at Senior Cycle level (50% biology; 16% physics; and 14% chemistry).⁵ Ireland recognizes the importance of math and science in attracting new foreign investments and maintaining the standard of living and rate of growth to which its people have become accustomed.

Apart from internal school tests, there are two key public examinations taken by students – the Junior Certificate (age 15/16) and the Leaving Certificate (age 17/18), which are set by the State Examinations Commission (formed in 2003). The vast majority of young people in Irish schools attain the Junior Certificate. A Junior Certificate award can be made in one or more subjects, but typically learners undertake multiple subjects. There are variants of the Junior Certificate that cater to students with special needs. And a small number of adult learners work toward this award each year.

Early School Leavers

Ireland does face the challenge of a 17 to 20 percent dropout rate. The easy availability of low-paid employment may encourage students to leave school early. Those who drop out before the Leaving Certificate level and those who do badly in the examination are at grave risk of experiencing long-term unemployment. Because these young people come largely from families living in poverty, the Leaving Certificate has been said to play a part in perpetuating poverty and social inequality.

The Department of Education and Science has recently implemented a number of initiatives designed to increase the rate of school completion. The School Completion

⁵ 2005 data from ASTI Press Release, September 14, 2005.

Program supports post-primary and feeder primary schools with low retention rates and provides whole school support based on an integrated approach involving the schools, parents, and community agencies.

The focus of the School Completion Program is on young people between the ages of 4 and 18 years. Funding is provided to projects on the basis of plans developed by and agreed to between the Local Management Committee and the Department of Education & Science. Efforts include in-school, after-school, home, family and community supports to enhance the young person's readiness to benefit from education.

Transition Year Program

The Transition Year is an option for students immediately following the Junior Cycle. A white paper released in 1995, *Charting Our Education Future*, indicates that the Transition Year Program is designed to help students to relieve some of the stress by giving them more freedom to study the subjects they want and tailor them to individual interests. It provides an opportunity for students to experience a wide range of educational inputs, including work experience, travel, additional schooling, community service, over the course of a year that is free from formal examinations.

The Transition Year has three overall aims:

1. Personal development, including social awareness and increased social competence.
2. Promotion of general, technical and academic skills with an emphasis on interdisciplinary and self-directed learning.
3. Experience of adult and working life, giving students the opportunity to have their skills assessed by an employer.

The content of the program is selected by each school. Guidelines describe broad Curriculum Principles that should characterize any Transition Year program:

1. Do not focus on the Leaving Certificate Examination subject areas in their traditional form.
2. Support remediation and compensatory studies to give students optimal chance of eventually succeeding on their Leaving Certificates.
3. Create interdisciplinary themes as the focus of learning.
4. Expand the learning environment beyond the classroom into the workplace or community service arenas.

Evaluations by the Inspectorate of the Department of Education and NCCA⁶ reveal that most schools are enthusiastically embracing the notion of the Transition Year and have been innovative in developing activity-based learning projects for the students. Taking

⁶ "Transition Year Programme 1994-1995." Inspectorate of the Department of Education and "From Junior to Leaving Certificate: A Longitudinal Study of 1994 Junior Certificate Candidates Who Took the Leaving Certificate Examination in 1997." David Millar and Donal Kelly, Educational Research Centre, St. Patrick's College, Dublin, December 1999.

into account previous performance, the type of school attended and student gender, students who participated in the Transition Year outscored their counterparts on the Leaving Certificate Examinations by an average of 26 point scores. However, because there is no single program, the quality of programs varies between schools, and the students themselves are older when they take the exams after spending a year in Transition, it is difficult to isolate which aspects of the Transition Year program are the most beneficial to students.

The consensus among principals, teachers and students is that the Transition Year is a very worthwhile initiative. Approximately half of all students now enroll in the Transition Year Program, and it is projected that about three-quarters will do so within the next ten years.

Examinations

During the final two years of Senior Cycle students take one of three programs, each leading to a State Examination:

1. Leaving Certificate (traditional)
2. Leaving Certificate Vocational
3. Leaving Certificate Applied

University representatives partake in NCCA committees and are invited to make observations on the Leaving Certificate Examination papers. The highly competitive high school leaving certificate score determines placement in universities and technical institutes (school grades are not considered). Exams are written response, with no multiple-choice questions.

The Leaving Certificate

The Leaving Certificate examination is taken when students are typically 17 or 18 years of age (it can only be taken once a year during the month of June). Syllabi are available in the following subjects: Accounting; Agricultural Economics; Agricultural Science; Arabic; Art; Biology; Business; Chemistry; Classical Studies; Construction Studies; Economics; Engineering; English; French; Irish; Geography; German; History; Home Economics; Italian; Japanese; Mathematics; Music; Physics; Physics & Chemistry; Religious Education; Russian; Spanish; and Technical Drawing.

All subjects are offered at two levels, ordinary and higher (more points are awarded for those who take the more difficult examination). Students following the established Leaving Certificate program are required to take at least five (typically seven) subjects, one of which must be Irish. Approximately 81 percent of young people attain the Leaving Certificate each year.

Approximately 20 percent of the Leaving Certificate cohort of 2004 was ineligible to go on to Third Level as they either failed math or only completed foundation level.⁷ Irish performance on the mathematical literacy portion of the PISA exams echoes this finding.

The Leaving Certificate Vocational

The Leaving Certificate Vocational Program was introduced in 1989 and concentrates on technical subjects and some additional modules, which have a vocational focus. Due to its high vocational content, it receives European Social Fund support. Students opting for the LCVP must take five Certificate subjects, including two subjects from a specified set of vocational subjects; a recognized course in a modern European language; and three mandatory Link modules – Enterprise Education, Preparation for Work, and Work Experience. These modules are activity-based; they involve the organization and management of min-enterprises, visits to businesses and industry and investigations of the local community.

This award is not accepted by higher education providers (however, applied holders can progress to programs leading to further education awards, and transition from further to higher awards is possible under certain circumstances).

The Leaving Certificate Applied Program

The Applied Program was introduced in 1995 and is a self-contained two-year course using a cross-curricular approach rather than a subject-based structure. The framework of the LCA program consists of a number of modules grouped under three headings:

1. general education
2. vocational education
3. vocational preparation

Like the LCVP, certification in the LCA is not recognized for direct entry to third level colleges. Again, students who successfully complete the program can proceed to Post-Leaving Certificate courses and thereby continue their education.

Both of these alternative programs are more practically/vocationally oriented and focus on preparing young people for work and further education. They emphasize the development of characteristics such as enterprise, initiative and the ability to work in teams, and they use a variety of forms of assessment. However, the take up of these programs remains low. This may be due to a perception on the part of students and their parents that participation in alternative programs is an admission of an inability to cope with the high prestige Leaving Certificate. There may also be reluctance on the part of some schools to offer alternatives because they fear that to do so might damage their reputation as "academic institutions." In addition, certificates from alternative programs have, so far at least, failed to attract the prestige necessary (among employers, for example) for those who have them to compete effectively in the labor market.

⁷ National Competitiveness Council, Annual Competitiveness Report 2005.

Teaching Force

Traditionally, teaching in Ireland has enjoyed high social status and regard. Entry into teacher education is highly competitive and teacher preparation programs are well regarded. Prospective teachers have two main pathways into teaching: a three year B.Ed. course in the colleges of education or a graduate entry to a shorter eighteen month course, also located in the colleges of education.

Teachers at primary and post-primary schools share a common salary scale, with extra allowances for some qualifications and additional areas of responsibility. The OECD comparative data for teacher salaries show that Irish teachers are relatively well paid by international standards, ranking in 7th place out of the 27 countries surveyed. 1999 figures indicate an average starting salary of \$22,000 for primary school teachers, and those with 15 years experience earning \$35,500. The proportion of educational expenditure applied to Irish teacher salaries (about 76 percent) is significantly higher than the EU average.

In Ireland, teachers are not assigned by a central agency to schools. The Department of Education and Science determines the number of teachers, which a school can employ, linked to student teacher ratios.⁸ The school management board makes the teacher selections and is the employer of teachers.

To date, there has not been significant difficulty in securing teachers throughout the country, although there is some evidence that schools in disadvantaged areas experience high staff turnover. The Irish government is considering giving preferential treatment to trainee teachers who accept assignments in disadvantaged areas.

Accountability

Ireland has instituted tightened procedures for school accountability. The Education Act of 1998 requires schools to engage in the preparation of school plans and establishes accountability procedures. However, school reports on teaching, learning, assessment, school planning, school management, and resources only are prepared on average every six years. Four regional business units are responsible for monitoring the quality of primary and post-primary schools in their respective areas.

In recent years, the media have been pressing for more public disclosure of examination results, but the DES is generally opposed to this and the law actually prohibits it. Because Ireland is so small, parents tend to be well informed about the success patterns of different schools.

Third Level Education

Over the past thirty years, higher education in Ireland has expanded six-fold. The EU Social Funds were critical investments in upgrading of third-level institutions and strengthening the technological institutions. In a very real sense, the current strength and

⁸ Student teacher ratios have been improving, although they are still high by international standards (1:19 in 2000-01) Ireland's Country Background Report on Recruiting, Developing and Retaining Effective Teachers (OECD, 2003)

even the very existence of the university research community in Ireland can be partly attributed to its involvement in the EU.

In 2002, 36 percent of 25-34 year olds had at least some tertiary level education. Only a handful of countries had comparable or slightly higher rates, the United States being one. The supply of high caliber graduates from third-level institutions has been instrumental in attracting the foreign direct investment that fueled Ireland's boom in the 1990s.

The third level education system in Ireland is broad in scope, encompassing the university sector (seven universities), the technological sector (17 Institutes of Technology), five colleges of education and, in recent years, and a growing number of private, independent colleges. All except the private, independent colleges are substantially state funded with total expenditure exceeding euro 1.413 billion (2002). There are about 50,000 students enrolled in universities, 35,000 in Institutes of Technology, and 1,000 in Teacher Training and other colleges.

Irish investment rates in education at the tertiary level match other OECD countries.⁹ The Higher Education Authority manages and administers the university sector of higher education by coordinating state monies, reviewing the need for institutions, and allocating funds. The Department of Education and Science has overall responsibility for the technological sector of third level education, which encompasses programs in Business, Science, Engineering, Linguistics, and Music to certificate, diploma and degree levels.

Full-time students enrolled in undergraduate courses pay no tuition and institutions are reimbursed based on the number of students who take examinations and complete programs. Students from low-income families can qualify for up to \$2,500 per year in maintenance support. Part-time students or those taking postgraduate courses must pay tuition, although it is tax deductible. There is debate within Ireland about whether life-long learning would be better supported with a consistent approach to fees and learning modes.

Participation in higher education in Ireland has skyrocketed in recent decades: in 1965 18,200 students were enrolled in third level education, in 2000 the number was almost 120,000. As of 2001, 60 percent of the population of 17 year-olds transfers to third level. And while most higher education students come directly from post-primary school, there is the emergence in some institutions of modular, part-time programs of study aimed at the mature student or adult learner.

However, the high dropout rates at third level are troubling. It appears that the dropout rates can be attributed, in part, to the poor, prior understanding many students have of areas of study and college life in general.

Selection for admission to higher education is implemented through a Points System in which applicants are awarded points determined by the grades they receive in their best

⁹ National Competitiveness Council, Annual Competitiveness Report 2005.

six subjects in the Leaving Certificate examinations. The points depend on the level at which a student takes a course (Higher or Ordinary) and on the grade achieved. The total of the six best scores (excluding scores for any foundation level courses) is the higher education entrance score. More points result in better opportunities for admission to University or Institute of Technology programs. For example, only students with very high scores on the Leaving Certificate are allowed to study medicine or law. The number of points needed for any program depends on the number of applications, which varies year to year.¹⁰

This relatively rigid system has been criticized by many, including the Education Minister who wants to reform the Leaving Certificate in order to alleviate the stress students caused by the pressure to perform on terminal written exams. Additionally, performance in the Leaving Certificate is closely related to socio-economic background and that young people who live in poverty are less likely than others to obtain valuable educational qualifications.

Institutes of Technology

Ireland's system of technical colleges – established in 1972 and reconfigured as Institutes of Technology (ITs) in 1998 – are credited with leading the nation's economic resurgence. The redesign from regional, vocational institutions was supported by EU funds and created a much more modern, responsive system designed to meet industry demand for a technically trained workforce. The ITs now enroll nearly 40 percent of all tertiary students in Ireland.

The ITs run courses in Engineering, Computing, Science, Business, Catering and a wide range of other areas. They are authorized to offer some (up to 25 percent of enrollments) baccalaureate degrees and postgraduate degrees and conduct some research and development. Entrance is generally directly from secondary school with rigorous entrance requirements, but there is increasing emphasis on attracting mature students and increasing access for disadvantaged students.¹¹

With a business, and sometime individual industry sector, focus, the colleges are making education (usually at the bachelor's level, but sometimes extending to master's degrees and beyond) more relevant to the world of work. The ITs have had success with placing students in co-operative work experiences and many are expanding their programs to encourage stronger linkages between educational institutions and industry. Taking a cue from the ITs, Ireland's two newest universities -- the Dublin City University and the University of Limerick -- also include co-operative education as a required offering. The work experience is believed to strengthen students' success in securing employment post-graduation. Already at the University of Limerick, over 2,000 students are allocated work placement each year,

¹⁰ The point system has its problems, but research finds it is a good predictor of success and is a fair mechanism. An emerging problem today is that the system favors school leavers, potentially shutting out mature students.

¹¹ Stuart A. Rosenfeld. Regional Technology Strategies, Inc. A Comparative Analysis of Performance Assessment Methods and Outcomes in Canada, Denmark, Ireland, and United Kingdom. February 2001.

About 70 percent of Ireland's third-level students study engineering, science, computer science or business.¹² Ireland ranks first among OECD countries in terms of the number of science and engineering graduates per thousand of the population aged 20-29. This includes certificate, diploma and degree holders.¹³ Yet Ireland in 2002 ranked 8th out of the EU 25 for mathematics, science and technology PhDs awarded per thousand of the population aged 25-34 years.¹⁴

The Institutes of Technology have always participated in regional economic development efforts, especially when doing so could improve employment opportunities for their graduates. The government's national development plan has recently strengthened the connection to business, introducing a range of incentives for the Institutes to increase their collaboration with industry and to undertake more research and development. Through the Higher Education Authority, Ireland has already committed almost euro600 million to creating new labs and research space. There is now an unprecedented level of investment in research buildings and business incubation units at the colleges.

Ireland requires by law that each Department within the Institutes of Technology conduct a rigorous program self-assessment and submit it to the Higher Education Training and Awards Council every five years. NCEA guidelines require, among other things, an analysis of the effectiveness and efficiency of each course approved, the institution's response to the worlds of work and education, and formal links to business and industry to ensure relevancy.

The National Qualifications Authority of Ireland

The plethora of qualifications that were certified by various bodies within the government created problems of standardization (both within Ireland and internationally) and made it difficult for students to transfer credits. The 1999 Qualifications (Education and Training) Act was designed to develop a comprehensive framework that will include all awards made in Ireland. Additionally, the EU is preparing to adopt a framework consistent with the Irish system.

The National Qualifications Authority of Ireland was established in 2001 to establish and maintain a framework of qualifications to be acquired by learners (both in further education and in higher education). The NQAI has four main objectives:

- establish and develop standards of knowledge, skill or competence;
- promote the quality of further education and training sector, and higher education and training;
- provide a system for coordination and comparing education and training awards;
- and

¹² Michael Carone. Education in Ireland: Past Successes and Future Problems.

¹³ European Innovation Scoreboard 2004 as cited in the National Competitiveness Council, Annual Competitiveness Report 2005.

¹⁴ European Commission: Science and Technology Report 2001 as cited in the National Competitiveness Council, Annual Competitiveness Report 2005.

- promote and maintain procedures for access, transfer and progression.

The Act also established two independent bodies:

1. *The Higher Education and Training Awards Council* to make awards for learning in the Institutes of Technology, National Institutions and certain other colleges and institutions.
2. *The Further Education and Training Awards Council* to make awards across a broad span of education and training areas.

Ideally, this system will facilitate accumulation of qualifications and portability of those qualifications in an effort to strengthen lifelong learning.

Challenges Ahead

- Maintain 12.5% corporate tax rate to retain and grow the number of foreign investors
- Maintain investments now that EU funding is declining with the entry of new and needy Eastern European members of the EU
- Increase flexibility into the traditionally rigid system of student selection and administration in higher education institutions
- Infuse adaptability into the higher education system to respond to the accelerating rate of change in business environment
- Balance the goal of increasing higher education enrollment and retention rates with the maintenance of high standards of teaching
- Further develop the country's research and development capability

Areas the Commission Might Want to Explore Further

- Transition Year program
- Institutes of Technology
- Co-operative education at the ITs and universities