



South-East
Regional Authority
Údaras Reigiúnach
an Oir-Dheiscirt



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“Youth Entrepreneurship Strategies (YES)” Project

Entrepreneurship Education in Ireland — Research Mapping and Analysis

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Report submitted to the South-East Regional Authority by



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Executive summary and recommendations

Executive summary

In today's ordeal of global economic challenge, particularly acute in Ireland, the subject of entrepreneurship education (EE) brings into sharp focus the debate on the proper role of education. Educators traditionally take a measured perspective on the perennial clash between the vocational and liberal missions; for them, the wise approach has always been to favour the provision of broad underlying generalist skills over transitory specialist competences. But, for embattled enterprise policy-makers on the front line, faced with the twin scourges of unemployment and emigration, the education system would ideally deliver into the world of work students ready to *hit the ground running* as fully formed employees or, better still, employers.

At primary and second level in Ireland, entrepreneurship education has traced a middle way, seeking to fuse the formal curriculum's best practice in new participative pedagogy with an overlay of more enterprise-focused extra-curricular activities. Likewise, at post-secondary level, entrepreneurship education is mediated to a substantial extent through extra-curricular and informal activities. The downside of this arrangement is that the provision of entrepreneurship education tends to be uneven across the schools and colleges and is unsustainably reliant on the goodwill of a cohort of 'champion' educators and industrialists.

Primary education

Key entrepreneurship education mapping data findings

- No dedicated entrepreneurship education subject
- Emphasis on development of 'soft' skills
- Extra-curricular resources including Bí Gnóthach and Junior Achievement Ireland programmes

Most people agree that the heavy hand of commerce should be withheld from primary-level schools so that children can enjoy an education free from the harsher demands of competition and profit. In Ireland the emphasis is on drawing out in pupils the 'soft' skills of entrepreneurship such as confidence and self-reliance, initiative and creativity, critical thinking and reflection, and a sense of adventure and risk-taking tempered by responsibility. Primary education in Ireland aims to be very

much child-centred so good teachers and principals automatically look to inculcate these traits in their pupils when planning their subject courses across the curriculum.

There is scope in the general primary curriculum to provide some early knowledge of the world of business, and some understanding of the role of entrepreneurs in the community. The extent of this provision is very much dependent on the capacity of the individual school in terms of teacher experience and management enthusiasm. Extra-curricular resources such as the Bí Gnóthach enterprise programme can prove very useful but success depends on the availability of external assistance from the Professional Development Service for Teachers (PDST), Education Centres, and, critically, from City and County Enterprise Boards' sponsorship of EE development officers.

Second level education

Key entrepreneurship education mapping data findings

- Enterprise modules within JC Business Studies and LC Business subjects
- Enterprise Education link modules within the LC Vocational Programme: 35,000 students in 2009–2010 academic year
- LC Applied has Enterprise 1, 2 and 3 modules
- Mini-company programmes in Transition Year (50% school participation rate)
- National Council for Curriculum and Assessment has developed a Senior Cycle Short course on Enterprise
- Support to teachers provided by PDST and Education Centres
- Range of extra-curricula resources and competitions (active support of City and County Enterprise Boards)

At second level, Irish entrepreneurship education has been lauded in European reports for its Transition Year, Leaving Certificate Applied and Leaving Certificate Vocational Programmes. This recognition is well merited as these innovations in Irish education have been thoughtfully designed in response to the changing work and business environment so as to serve those pupils for whom the established 'academic' course was too restrictive. But these innovations are optional pathways and the great majority of second level students do not receive the benefit of their particular emphasis on the nature of enterprise and the opportunities for self-employment.

For the mainstream second level students, the exposure to entrepreneurship is principally provided by the Junior Certificate 'Business Studies' subject and the Leaving Certificate 'Business'. For both subjects Enterprise forms only one element in an extensive syllabus and the education would certainly be categorised as 'about' rather than 'for' enterprise.

The promising story for second level entrepreneurship education is the work on proposed changes to the Junior and Senior curricula now nearing completion by the National Council for Curriculum and Assessment (NCCA) following an extensive consultation process with stakeholders. Reflecting similar conclusions by EU and OECD working groups, the NCCA recommend that the teaching and learning experience for all subjects at both levels in Irish secondary education should, in the future, be informed by a '*framework of key skills*' including Communicating, Creativity,

Team Working, Information Processing and Critical Thinking. There is no doubt that integrating these 'key skills' into the curricula at the Junior and Senior levels will underpin entrepreneurship potential and capacity.

Prompted by the reports of a number of Irish enterprise policy strategy groups, a further exciting element in the proposed NCCA changes is the re-configuration of the senior level curriculum to provide a greater range of components and allow for greater flexibility. The new offering will comprise 'Subjects', 'Short Courses' and 'Transition Units' of 180 hours, 90 hours and 45 hours duration respectively.

The shortened courses means students can select (as well as select from) a wider range of subjects. The Minister for Education and Skills has already commissioned a 'Short' subject on Enterprise which has been based on the LCVP Enterprise link module.

Opportunities for a more intimate practical exposure to business are afforded by an established programme of national and local student enterprise competitions 'embedded' into the formal second level time-table. The flagship competition is the Student Enterprise Awards sponsored by the County and City Enterprise Boards and its county and national finals are gala events in the school calendar. Transition Year students also have the opportunity to run a 'Get up and Go' mini company in a protected pedagogic environment to simulate the operations of real firms. These competitions are enthusiastically supported by the PDST and the network of Education Centres.

Tertiary level

Key entrepreneurship education mapping data findings

- A survey of 26 higher education institutions (mainly universities and institutes of technology) show that they provide 44 courses leading to a full award or qualification in enterprise or entrepreneurship
- The survey also shows that they offer 416 courses with credit-bearing or embedded enterprise/entrepreneurship modules

Cooney and Murray carried out a comprehensive survey of EE in the Irish HE sector in 2007 and found that, while it was still very much in its infancy, EE provision was increasingly available in all third-level institutions in the form of business modules and structured academic programmes. This survey was updated for our project and revealed that the respondents now offer 44 full entrepreneurship education awards and 416 courses with credit-bearing entrepreneurship modules. The upward trend in full awards is testimony to the increasing recognition of EE as a substantial subject in higher education.

A parallel NCGE/YES survey of EE in the HE sector undertaken for this project revealed an Irish Student Engagement Rate (SER) of 12% — SER is the percentage of total students enrolled in the sector that engages in EE through either curricular or extra-curricular activities. The comparable SER figures for the UK and EU were

16% and 24%, confirming the Cooney (2008) conclusion that, while much had been achieved, most institutions remain a long way from the cutting-edge of entrepreneurship education in global terms.

NCGE–YES survey of 22 higher education institutions (2011)	Student Numbers
Full Awards	1,084
Full Modules	6,020
Embedded Modules	5,488
Extra-Curricula Activities	6,540
Total Engagement Number	19,132
Total Enrolment Number	157,369
Student Engagement Rate	12.2%

Another important HE survey, carried out by the Accelerating Campus Entrepreneurship (ACE) consortium of Higher Education Institutions (HEIs) in 2008, found that the absence of an explicit institutional EE strategy in HEIs was leading to poor communication of existing entrepreneurship supports with the result that graduates who had identified commercialisation opportunities for their research results were missing out on the encouragement to progress their ideas.

Policy level

Key entrepreneurship education policy findings
<ul style="list-style-type: none"> ■ Relative lack of high-level policy commitment to both entrepreneurship education and entrepreneurship itself ■ Lack of a national framework or an articulated institutional strategy for entrepreneurship education that would support education and practice among staff and students at all levels and across all disciplines ■ Relatively little evidence of organisational and institutional commitment, particularly in the Higher Education sector, to encouraging or developing entrepreneurship teaching or learning practice

In October 2007, Forfás (in consultation with the Small Business Forum) published *‘Towards Developing an Entrepreneurship Policy for Ireland.’* This Report provided background information for a National Entrepreneurship Policy Statement and set out a blueprint to drive entrepreneurship in Ireland. A Draft Policy Statement was submitted to the Department of Enterprise, Trade and Employment. The Department then prepared a final Policy Statement for submission to the Minister and expected a Policy Statement to be published in early 2008. However, no Entrepreneurship and/or EE Policy Statement or Strategy has yet emerged.

Recommendations

TMA present their recommendations on entrepreneurship education under three broad headings: A. an overarching recommendation; B. recommendations arising from the mapping analysis; C. policy recommendations.

A. Overarching recommendation

A1. Immediate publication of an Entrepreneurship Policy Statement, which should include a coherent programme for entrepreneurship education at primary, secondary and post-secondary levels

It is now essential that the South-East Regional Authority (SERA) send out an urgent call for the long-delayed publication of such a Statement, which is timely in the context of the recent changes in government and in our general economic circumstances. With regard to Entrepreneurship Education in particular, it is essential that the Statement come from both the Department of Enterprise, Jobs and Innovation and the Department of Education and Skills.

B. Entrepreneurship education — Mapping

B1. Resources should be allocated for the deployment of EE Development Officers in all CEB jurisdictions to improve the uptake of the Bí Gnóthach EE programme

It has been proven in particular CEB areas that the deployment of an EE Development Officer (EDO) can make a substantial difference to the uptake and performance of EE programmes such as Bí Gnóthach in primary schools. The teachers have a heavy workload and the external assistance can make the difference between a successful programme and no EE at all. The sense of solidarity together with the input of fresh ideas energise the teachers.

B2. Stock of Resources for Primary Level should be boosted

Our discussions with knowledgeable informants suggests to us that the stock of teaching material available as a resource for primary level EE could usefully be refreshed to keep pace with the ever-accelerating march of ICT and its impact on children's attitudes. Clever initiatives such as SERA's Generation Next project show how this task can be combined with mobilising EE thinking across the education system from primary to HE.

B3. The proposed NCCA revisions to the Junior and Senior Cycle should be accepted and appropriate resources should be allocated to ensure their expeditious implementation

The exciting NCCA curriculum changes at Junior and Senior cycles in terms of 'key skills' and 'flexible learning profiles' (Subjects, Short courses and TY units) should be signed off by the Department of Education and Skills and resources allocated to speed their implementation. These have the potential to significantly increase the number of second level students who gain a real experience of the practical aspects of entrepreneurship.

B4. Make the LCVP Link Modules open to all senior cycle students

The LCVP link modules have tremendous attributes in terms of content, skills,

methodologies and assessment, and they afford students a real enterprise experience through visits and placements. Instead of the present arrangement whereby the Link Modules are merely components of the optional LCVP subject they should be augmented and elevated to the status of a full subject in their own right and open to all students with no conditions attached.

B5. Mount an EE Portal

There are several web sites offering very useful information and resources to students and educators. Examples include those of the PDST, the Education Centres and the CEBs. We feel that the impact of all these excellent but dispersed channels could be immeasurably enhanced by migrating them to a dedicated EE one-stop-portal. It would serve as a dynamic forum for exchange of views from all EE players.

B6. Teacher education at primary and second level should include an EE module

Irrespective of the final resolution of the debate about whether or not to institute specific EE modules in primary and secondary education we believe that student teachers should be provided with a module so that they can bring a credible EE presence to the classroom.

B7. Commission a research study to determine the extent and quality of EE in the Further Education (FE) sector

We understand that all Post Leaving Certificate (PLC) courses include a work experience module as a mandatory requirement for FETAC certification. Some of these courses contain the FETAC 'Start Your Own Business (SYOB)' module. It is difficult to get an accurate measure of the number of youths involved in these courses — in its presentation of student numbers for its different courses the annual FETAC Awards Report does not differentiate between adult and youths. It would also be necessary to carry out a few selective case studies to evaluate the calibre of the EE involved in the SYOB modules.

B8. The ACE initiative and its Train the Trainers programme should be rolled out to encompass all HEIs

The ACE initiative has made a significant contribution to the 'framework conditions' supporting EE delivery in the partner institutions. The key achievement has been ACE's success in instigating a very visible commitment from the top management of each institution to the EE mission in their institution. The enhanced interdisciplinary co-operation mobilised by ACE was a second vital achievement in facilitating the embedding of EE in non-business disciplines. The ACE Train the Trainers programme is exactly the sort of programme required in other HEIs to upgrade their pedagogical skills.

B9. A quantum of Department of Education and Skills funding should be ringfenced for EE

Our findings have confirmed that the absence of a secure and dedicated line of funding threatens the fledgling EE project at all levels of the education system where it continues to be overly reliant on the supererogatory efforts of 'champions'.

Given the manifest workload of teachers one suggestion is that a portion of this ringfenced money could be channelled through the CEBs to augment their supports that have been proven to enhance the EE provision. Such inter-departmental co-operation initiatives would signal the serious intent of government to promote Irish entrepreneurship to world-class standard alongside its world-class research. This would serve the government's stated objective to strike a better policy balance between investment in knowledge exploration and knowledge application.

B10. Launch a grand EE Awards event

It is clearly evident that in the area of EE there are tremendous efforts being put forth by students, educators, schools and external supporters from the public and private sectors. The corollary is that people can become demotivated and frustrated if they do not get the recognition their unstinting efforts deserve. We believe that a grand awards event, celebrating together these exponents of EE excellence, would be a very effective motivating tool and would also generate welcome public interest in EE.

B11. EE Initiatives should include thoroughgoing impact assessment methodology

International experience has shown that policy support and resource allocation tend to follow on from the establishment of a robust evidence base. There is a dearth of Irish evaluation data on EE impact. We believe that research projects on longitudinal studies should be commissioned by a joint Department of Education and Department of Enterprise EE evaluation committee. The imminent introduction of the NCCA curriculum revisions in senior cycle provides an excellent opportunity to mount a longitudinal EE impact study similar to that being undertaken by ESRI.

C. Entrepreneurship Education — Policy level

C1. Need for EE strategy statements from primary, secondary and tertiary sectors

It is now timely for the primary, secondary and tertiary sectors to make appropriate statements regarding their approach to EE at both the overall and individual sector levels. The two lead government departments (and the DES in particular) must play a key leadership role at all three levels but this will be particularly important at primary and secondary levels, where individual schools have relatively little discretion and resources.

C2. Support collaborative approaches to EE development and provision

Regarding both HE and FE institutions, a number of potential models have emerged e.g. the UCD Strategic Plan to 2014 which includes '*a focus on stimulating creativity, innovation, entrepreneurship and active citizenship in all our students*'. The UCD-TCD Innovation Alliance also shows the way with its commitment to '*creating an infrastructural and cultural environment where innovation and entrepreneurship thrive*'. The ACE Initiative brings together the Institute of Technology Blanchardstown, Cork Institute of Technology,

Institute of Technology Sligo and National University of Ireland Galway and is being led by Dundalk Institute of Technology. The ACE project aims, through a collaborative approach, to create entrepreneurial graduates. This requires embedding entrepreneurship education into existing non-business programmes and effecting organisational change within and between the institutions to reflect entrepreneurial processes involving collaboration between the academic Schools and Departments, incubation and technology transfer offices. The ACE Initiative is supported by the Strategic Innovation Fund of the Higher Education Authority (HEA).

C3. Adequate funding is essential for implementation of EE policies and strategies

All such policy/strategy statements must be accompanied by clear and adequately financed action/implementation plans that can be subject to ongoing evaluation and assessment in terms of inputs, outputs, impacts (based on longitudinal studies) and overall performance.

C4. Establish Inter-departmental structures to assist roll-out of EE strategy

As part of this overarching implementation process and in the context of impending public service reform, adequate and appropriate Inter-departmental mechanisms must be established to oversee the rolling-out of a 'national system of entrepreneurship education' on the basis of the National Entrepreneurship Policy Statement. It is essential that there are clear lines of responsibility and day-to-day management at the national, regional and local levels.

Clear roles and responsibilities should also be defined at school and college management levels, with appropriate representation at management committee/board level and designated 'EE Champions'. Rather than being a bar to status and promotion, as now appears to be the case, interest and involvement in enterprise education should be consciously promoted in the context of the emphasis placed by government and society in general in encouraging and developing entrepreneurial capabilities and initiative.

C5. Promote formal EE networks

Formal EE Networks (at 1st, 2nd and 3rd level) should be promoted and facilitated, involving appropriate groupings of educational institutions and organisations such as IBEC, SFA, ISME, Chambers of Commerce, etc., who are organised locally, regionally and nationally. This is required if enterprise education is to be recognised as a clear priority for both the education system and the overall enterprise sector. These networks should be complemented by schemes such as Entrepreneur in Residence initiatives.

C6. Review EE prizes and award schemes

Forfás and/or private consultants should be commissioned to undertake a review of the great variety of prizes and award schemes aimed at encouraging entrepreneurship in general and enterprise education in particular. Some of these play a key strategic role (e.g. Bí Gnóthach at the primary level) while others have been inadequately specified and judged. While it might be impossible to

'ban' inappropriate and poorly administered competitions, clear and agreed criteria for such awards could be set out as a result of such an exercise.

1 Background and methodology

1.1 Background

The South-East Regional Authority (SERA) is a partner in the EU INTERREG IVC part-funded project “*Youth Entrepreneurship Strategies (YES)*” involving eight regions from eight EU member states. The overarching objective of the YES project is to improve policies at national, regional and/or local level regarding the integration of entrepreneurship teaching into the education system.

Each YES partner organisation was tasked with mapping the provision of entrepreneurship education in their respective region/state. The two main objectives of the mapping project were:

- **Objective 1: Map the education system in terms of entrepreneurship**
 - Map the education system on a national, regional and local level;
 - Map the existing entrepreneurship education strategies, policies and legislation;
 - Map the relevant authorities that manage entrepreneurship education.
- **Objective 2: Map the entrepreneurship education activities**
 - Map activities on different education levels from primary school to university
 - Map support activities for entrepreneurship education
 - Map networking and co-operation
 - Map communications.

SERA commissioned Tom Martin & Associates/TMA in association with Dr. Tom Cooney of Dublin Institute of Technology to carry out the Irish entrepreneurship education mapping and analysis project. The following sub-section outlines the research methodology that the consultants employed in undertaking the mapping study.

1.2 Methodology

The project commenced in January 2011 with a meeting of the YES project reference committee which allowed for an exchange of information and contacts; a number of the major reports on entrepreneurship education provision that the TMA team accessed stemmed from information supplied by the reference committee members.

The main focus of the initial stages of the work programme was on collecting data on the education system in Ireland with a particular focus on the identification of education policies, supporting and providing organisations at primary, secondary and tertiary levels.

The TMA team then turned their attention to collecting data on policies and provision in relation to entrepreneurship education at primary, secondary and tertiary levels. The team accessed a number of major Irish entrepreneurship education reports:

- *Enterprise Education in Primary Schools: A needs analysis* by Fiona Baily with Eucharía McCarthy and the Centre for Entrepreneurial Studies, University of Limerick, on behalf of the City and County Enterprise Boards and the Curriculum Development Unit (2009);
- *European Universities' Research on the Promotion of Enterprise Education: An Irish Context* by Naomi Birdthistle, Patricia Fleming and Briga Hynes of the University of Limerick (funded under the E.U.R.O.P.E. project) (2006);
- *Entrepreneurship education in the third-level sector in Ireland* by Tom Cooney and Trudi Murray, Dublin Institute of Technology (2008);
- *Entrepreneurship Education in Ireland. Towards Creating the Entrepreneurial Graduate* prepared by the Accelerating Campus Entrepreneurship (ACE) initiative (2009).

In addition, TMA collected an extensive amount of relevant data including entrepreneurship education student throughput statistics, course syllabi, student enterprise awards and teacher training provision. Reports on enterprise policy in Ireland were accessed, as were documents on EU entrepreneurship education policy initiatives and entrepreneurship education provision in other EU Member States.

The team also carried out face-to-face and telephone interviews with key stakeholders at primary, secondary and tertiary level as well as Government departments, State agencies, education providers, representative organisations and other informants.

Though the focus of TMA's work programme was on collecting published information, the team also carried out an extensive survey of entrepreneurship education within the third level sector. All of the major third level institutions were asked to:

- update the results of a survey that Tom Cooney and Trish Murray had undertaken in 2007 of entrepreneurship education provision;
- complete an online survey using a methodology developed by the National Council for Graduate Entrepreneurship in the UK that sought data on EE course provision, student numbers, extracurricular activities, funding and institutional policies

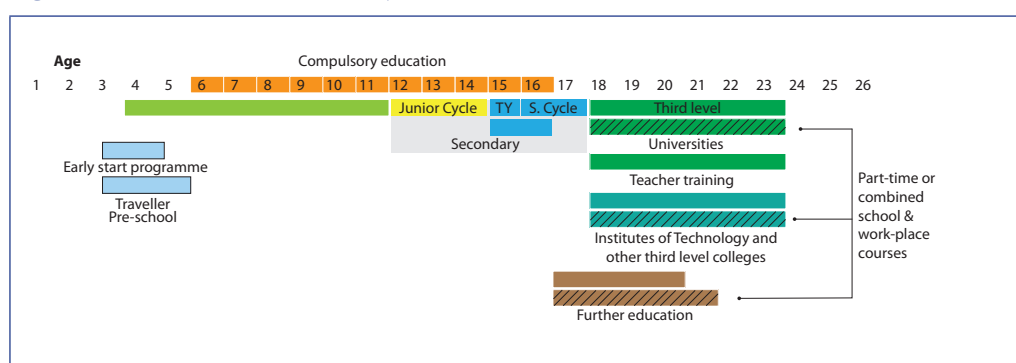
This report which is unique in that it covers entrepreneurship education at all three levels within the Irish education system makes a number of recommendations on entrepreneurship education policy and provision.

The TMA team would like to thank the South-East Regional Authority and the YES project reference committee for their commitment and support during the execution of this mapping project. We would also wish to acknowledge the generous assistance of all informants in our project. In particular, we would like to mention the higher education institution informants who responded to two extensive questionnaires on their entrepreneurship education provision.

2 The Irish Education System

Education has always been highly valued in Ireland. It is now regarded as a central plank in the social, cultural and economic development of Irish society. The following schematic diagram serves to illustrate the education system across the four levels from Primary to PhD.

Figure 2.1: *Irish Education System*



(Source: *The structure of the European education systems 2009/10: schematic diagrams* [Eurydice])

2.1 Administrative control and extent of public-sector funded education

Irish first and second level schools are, largely, privately owned but state funded. While the schools remain in private ownership (mainly by religious communities), they are locally administered by representative boards of management. Teachers' salaries and capital/operational costs are almost entirely met by the state. The Education Act (1998) provides a legal and administrative base for the education system at first and second levels. It legislates for an appropriate balance between the interdependent rights and obligations of children, parents, the teachers, the church, the State and other agencies. Universities and other higher education institutions are autonomous statutory bodies.

The Department of Education and Skills (DES) sets down a broad regulatory framework within which schools in receipt of state funding are required to operate. The regulatory framework includes the curriculum to be followed by schools, the governance structures for individual schools and the timeframe within which schools are required to operate. The Department pays salaries directly to teachers, but schools are their legal employers, except in the vocational system where local education committees have a high degree of administrative control in their areas.

The DES Inspectorate is responsible for the quality control and evaluation of first and second level schools and centres for education in accordance with Section 13 of the Education Act 1998. One Chief Inspector, two Deputy Chief Inspectors and eleven Assistant Chief Inspectors work with a team of some seventy inspectors involved at primary level and forty inspectors at post-primary level. They oversee approximately 25,000 teachers in 3,300 primary schools and 25,000 post-primary teachers in some 730 schools.

Together with the Higher Education Authority (HEA), the National Qualifications Authority of Ireland (NQAI), the Further Education and Training Awards Council (FETAC) and the Higher Education and Training Awards Council (HETAC), the Department also has a role in quality assurance in further and third level education.

2.2 Compulsory education

While compulsory schooling doesn't begin until children are 6 years old, almost half of 4 year olds and virtually all 5 year olds are enrolled in infant classes in primary schools.

There are two phases in Compulsory education:

1. First level: Primary schools, for pupils 6–12 years of age
2. Second level: Secondary/Community/Comprehensive/Vocational schools, for students 12–16 years of age

The Education Welfare Act (2002) provides for compulsory education between the ages of 6 and 16. Most children attending schools recognised under the terms of the Education Act (1998) start school at either 4 or 5 years of age. A child must be at least 4 years of age at the start of the school year (September) to enrol in primary school. When pupils complete primary education (at the age of 12), they are admitted to the junior cycle (for pupils aged 12 to 15 years old) of secondary level schooling. Parents may choose the school. Schooling is free except in privately-funded schools.

2.2.1 Curricula

The Primary School Curriculum (1999) is set at national level and comprises seven curriculum areas: Language (Irish, English); Mathematics; Social, Environmental and Scientific Education (SESE) comprising history, geography, science; Arts Education (visual arts, music and drama); Physical Education; Social, Personal and Health Education (SPHE) and Religious Education. It is an integrated curriculum and promotes the child as an active agent in his/her learning. Primary classes typically have one teacher for all subjects, while second level students have separate subject teachers.

The first stage of post-primary schooling that learners encounter is Junior Cycle (JC), a three-year programme introduced in 1989 that builds on the young person's educational experience at primary school by offering a broad, balanced and coherent programme of study across a wide range of curriculum areas.

In JC the knowledge, understanding, attitudes and skills—including the personal, social, moral and spiritual aspects—are extended and deepened. In the process, JC prepares learners for transition to senior cycle, for other further education opportunities, in some cases for employment and, in general, for the challenges involved in growing towards adulthood.

The core JC curriculum includes Irish, English, Mathematics, Civic, Social and Political Education (CSPE) and Social, Personal and Health Education (SPHE). Physical Education should also form part of the curriculum. In total there are twenty six subjects approved for the junior cycle curriculum and schools offer a selection to students.

Towards the end of the decade the Department of Education and Skills began to overhaul dated JC subject curricula such as History and Geography. In 1996, Civic, Social, and Political Education was introduced as a subject, and made mandatory from 1997. In 2002 a new Science course was introduced.

Aims of junior cycle education

The stated objectives of JC education are to:

- reinforce and further develop in the young person the knowledge, understanding, attitudes, skills and competencies acquired at primary level;
- extend and deepen the range and quality of the young person's educational experience in terms of knowledge understanding, skills and competencies;
- develop the young person's personal and social confidence, initiative and competence through a broad, well balanced, general education;
- prepare the young person for the requirements of further programmes of study, of employment or of life outside full time education;
- contribute to the moral and spiritual development of the young person and develop a tolerance and respect for the values and beliefs of others;
- prepare the young person for the responsibilities of citizenship in the national context and in the context of the wider European and global communities.

Curricular Development, Assessment and Revision

The National Council for Curriculum and Assessment (NCCA) is the statutory body charged with developing and revising the curricula for primary and secondary levels. Established in 2001 to advise the Minister for Education and Skills on the curricula and assessment procedures employed in schools and examinations, the Council membership represents teachers, school managers, parents, business and trade unions and other educational interests including the State Examination Commission.

2.2.2 Assessment and qualifications

There is no formal state examination at the end of primary education. National assessments of the reading and mathematics achievements of Irish primary school pupils are conducted every five years. Since 2006, primary schools are required to

administer standardised tests in literacy and numeracy to pupils at two points of the primary school cycle.

The syllabus for each JC subject is nationally prescribed, and achievement is assessed through externally set and marked examinations set by the State Examinations Commission (SEC) at the end of the three-year junior cycle programme (the Junior Certificate).

2.3 Post-compulsory education

This stage of education relates to senior cycle secondary and post-secondary level where post-secondary relates to further education (FE) and higher education (HE).

2.3.1 Senior cycle secondary level

The senior cycle caters for students in the 15 to 18 year age group. The vision of senior cycle education sees the learner at the centre of the educational experience. This experience should enable learners to be resourceful, confident, to participate actively in society, and to build an interest in and ability to learn throughout their future lives. Five key skills are targeted:

- Information processing
- Critical and creative thinking
- Communicating
- Working with others
- Being personally effective.

Transition Year programme (TY)

On completion of the Junior Cycle students have the option of taking a Transition Year programme (TY), one of the major innovations in Irish education. All second-level schools have the option of offering the TY programme to their students and most of them do offer it. The programme is generally seen as the first year of a three-year Senior Cycle programme, but is separate from the Leaving Certificate programme which is a two-year cycle.

The TY was introduced as a pilot project in September 1974 but it was not until September 1994 that the programme was introduced to the mainstream. Now firmly embedded in the Irish education system, it was taken up by 28,000 students in some 540 schools in 2009/10.

TY is intended to be a broad educational experience which assists in the transition from the junior school environment by encouraging creativity and responsibility for oneself. It is not examined but assessment is ongoing, with portfolio assessment, project work, and exhibitions of students' work: oral, aural, practical and written activities all form part of this assessment process. Since 2000, the Department has issued an official Transition Year Certificate to participants in addition to schools providing their own school-based certification.

Leaving Certificate cycle

The Leaving Certificate cycle itself has undergone significant restructuring in recent years with three variations introduced in the approach to the LC examination:

The traditional “established” Leaving Certificate

The established Leaving Certificate examination is the traditional terminal examination of post-primary education and is taken when students are typically 17 or 18 years of age. Syllabi are available in 34 subjects. All subjects are offered at two levels, ordinary and higher — Irish and Mathematics are also available at foundation level. Students following the established Leaving Certificate Programme are required to take at least five subjects, one of which must be Irish.

The Leaving Certificate is the main basis upon which places in universities, institutes of technology and colleges of education are allocated.

Leaving Certificate Vocational Programme (LCVP)

The Leaving Certificate Vocational Programme (LCVP) is an intervention designed to enhance the vocational dimension of the Leaving Certificate (established). The programme was introduced in 1994 in response to the challenge placed on Ireland’s education system by a changing work and business environment. The LCVP combines the academic strengths of the Leaving Certificate (established) with a new and dynamic focus on self-directed learning, enterprise, work and the community. This two year programme is part of an expanded provision that aims to cater for the diversity of participants’ needs at senior cycle. Over 35,000 students are enrolled in the LCVP between the two years and the programme is provided by some 500 schools.

The LCVP provides an overall vocational option to the Senior Cycle curriculum in line with the recommendations of recent Culliton and OECD reports. In addition, the programme serves better those pupils for whom the present LC is too restrictive.

Leaving Certificate Applied (LCA).

The Leaving Certificate Applied (LCA) Programme was introduced in 1995 and is a self-contained two-year course. Over 7,000 students are enrolled in the programme between the two years and it is provided by some 300 schools.

The LCA is a person-centred course involving a cross-curricular approach rather than a subject based structure. It has as its primary objective the preparation of participants for adult and working life through relevant learning experiences, which develop the following areas of human endeavour: spiritual, intellectual, social, emotional, aesthetic and physical. The framework of the LCA Programme consists of a number of modules grouped under three general headings:

- vocational preparation
- vocational education
- general education.

2.3.2 Further education

The term “Further Education (FE)” embraces education and training which occurs after second-level schooling but which is not part of the third level system.

The two largest programmes are the Post-Leaving Certificate (PLC) courses for young people seeking to upgrade their qualifications, and training courses for young job-seekers provided by FÁS, the national training authority.

Post Leaving Certificate (PLC)

Introduced in 1985, the PLC programme has grown considerably. In 2007–2008 there were approximately 30,000 persons enrolled on full-time PLC courses and there are over 1,000 course options. They cover a wide range of disciplines including Business Studies, Electronics, Engineering, ICT, Catering, Horticulture, Sport and Leisure, Theatre and Stage, Childcare, Equestrian Studies and Media Studies. PLCs are provided in some 225 second level schools and further education centres and colleges.

Responsibility for the provision of initial vocational education and training (IVET) is devolved from the DES to thirty three Vocational Education Committees (VECs) soon to be consolidated to about twenty. These VECs have statutory autonomy to identify and meet local needs for IVET. The VEC sector provides over 90% of PLC courses.

The courses are full-time and are of one to three years duration. They can lead to certification from the Further Education and Training Awards Council (FETAC) at levels 5 or 6 as set out on the National Framework of Qualifications (NFQ). Some PLCs are validated by UK or other international awarding bodies.

PLCs are primarily designed as a step towards skilled employment and, as such, are closely linked to industry and its needs. However, while they offer an alternative to higher education, certain PLCs are accepted as bridges into third level education in the Institutes of Technology and/or university education, e.g. through the Higher Education Links scheme. This ‘progression’ opportunity is now being built into the Irish education system.

The National Qualifications Authority of Ireland has put in place various policies to assist with access to programmes of education and training, transfer between programmes of education, and progression from one programme to another programme at a higher level on the NFQ. These policies are collectively referred to as Access, Transfer and Progression.

FÁS training for young job-seekers

FÁS is one of the main publicly-funded providers of post-secondary vocational training. These courses, including Specific Skills Training courses (SST) and FÁS Traineeships, are designed to enable participants to directly enter the labour market. Traineeships involve employers, union representatives and FÁS working together to devise occupational-specific training programmes for jobseekers.

The training content and occupational standards are based on consultation with employers and lead to certification by FETAC at levels 3–5 on the NQF. Traineeships combine structured on-the-job training with formal off-the-job tuition in a FÁS Training Centre. In host companies trainees are assigned a mentor or skills coach who supervises workplace training.

Traineeships vary in duration from six to twenty-four months, depending on the scope of the curriculum, the skill requirement of the occupation and the entry level of the trainees.

IVET is also provided through publicly-funded sectoral agencies:

- **Fáilte Ireland**, the National Tourism Development Authority, provides full-time day and block release courses, for trainees, in the hotel, catering and tourism industry. Its major courses are accredited by both FETAC and the Higher Education and Training Authority, HETAC, at levels 6–8 on the NFQ.
- **Teagasc**, the Agriculture and Food Development Authority, provides training for young people wishing to pursue a career in agriculture, horticulture and equine studies. Many of the courses extend over two years and include course work at college and work experience. FETAC Certificate are awarded to successful students completing the first year. Students completing the optional year two are awarded a FETAC Advanced Certificate at level 6 on the NFQ and participants have the option to transfer to higher third level courses.
- **Bord Iascaigh Mhara** (BIM), the Irish Sea Fisheries Board, offers IVET in sea and fish farming. There are currently in excess of one hundred individual BIM training modules or courses available for the seafood industry at both initial and continuing training level.
- **Údarás Na Gaeltachta**, a regionally-based economic development agency, which operates in Irish-speaking (Gaeltacht) areas, provides education and training which are core elements of the agency's development strategy for the Gaeltacht areas. Collaborative initiatives have commenced with a number of third-level institutions, with an emphasis on third-level education through Irish.
- **Crafts Council of Ireland**, provides training courses for those wishing to take up employment in this industry. There are over 120 PLC courses that include an element of craft mainly certified by FETAC at NFQ levels 3–6 and covering areas such as textiles, glass craft, ceramics, metal and woodwork. There were also a number of third level institutions providing craft related courses at NFQ levels 6–8.

2.3.3 Apprenticeship training

Apprenticeship is the recognised means by which individuals are trained to become craftspersons. The statutory apprenticeship system is managed by FÁS in co-operation with DES and the employers and trade unions, under the aegis of the National Apprenticeship Advisory Committee.

Apprenticeship training comprises a modular standards-based system, generally including 7 alternating phases — 4 on-the-job phases, and 3 off-the-job phases delivered in FÁS Training Centres and Institutes of Technology (the total off-the-job time amounting to forty weeks training and development).

On successful completion of this training, an apprentice receives an Advanced Certificate awarded by FETAC, the Further Education and Training Awards Council, at level 6 on the National Qualification Framework (NQF).

2.3.4 Higher education

The third-level education sector comprises seven universities (with associated colleges of education), fourteen institutes of technology, and a number of private independent colleges. The universities and institutes of technology (IoTs) are autonomous and self-governing, but are substantially state-funded. The HE sector also includes Colleges of Teacher Education.

The sector is principally funded by the state, mainly via the Higher Education Authority (HEA) which has overall statutory authority for advising, planning and developing higher education and research.

The minimum academic entry requirement for the majority of third-level courses is determined at individual institution level, and is based mainly on results in the LC examination. A 'points' selection system, computed on six subjects in the LC operates where there are more eligible applicants than places on the courses. Third level honours degree programmes are normally of four years duration with higher certificates and ordinary degree courses two and three years respectively. Postgraduate diploma courses are increasingly available in a range of subjects, frequently linked to continuing professional development.

While the universities make their own awards, accreditation for students participating in full-time, third level higher education in IoTs and other private institutions of higher education (private colleges or business schools) is mainly awarded by HETAC, the Higher Education and Training Awards Council. The IoTs offer programmes in technology, science, engineering and humanities at all levels from Higher Certificate to PhD, as well as providing craft and professional level programmes. In recent years, the institutes have greatly expanded their research portfolios.

Independent HE colleges offer courses covering a wide spectrum including business programmes, law, humanities, hotel, catering and tourism studies, science, and art and design. Many of the programmes offered by these colleges are validated by HETAC and some have links with universities and/or professional associations through which the courses on offer are accredited. Many of the independent colleges

also offer courses leading to the awards of overseas universities or other awarding bodies.

The establishment of the National Qualifications Authority Ireland (NQAI) in 2001 has provided an overarching body for all education and training awards and this has greatly facilitated access, progression and transfer for students within and between courses and institutions. The introduction of modularisation, symmetrisation and credit transfers is also allowing more flexibility for students, including mobility between institutions.

Irish Education Policy has long been exhorting the consolidation of HEIs. The recent National Strategy for HE (Hunt Report) has recommended that the institute of technology sector should commence a process of evolution and consolidation; amalgamated institutions reaching the appropriate scale and capacity could potentially be re-designated as technological universities.

Various groupings have emerged spontaneously in recent years in response to perceived common goals or challenges. These include:

- **M50 Enterprise Programme** (Institutes of Technology in Tallaght and Blanchardstown, and two Universities, University College Dublin and Dublin City University)
- **The Shannon Consortium** University of Limerick (UL), Limerick IT (LIT), IT Tralee (ITT) and Mary Immaculate College (MIC) — formed in the context of SIF Cycle I in 2006
- **The Innovation Alliance** partnership between Trinity College Dublin & University College Dublin
- **ACE Partnership** IoTs in Blanchardstown, Cork, Sligo and Dundalk, plus NUI Galway

In 1993, a number of the Independent Colleges established the Higher Education Colleges Association (HECA). Current HECA members are Griffith College Dublin, Dublin Business School, HSI Limerick Business School, Galway Business School, Hibernia College Dublin, IBAT College Swords and St. Nicholas Montessori College Ireland.

Distance Education

The provision of Distance Education at third level is expanding in Ireland and is now an additional service offered by many HEIs for selective courses. Major providers include DCU (their Oscail gateway was established back in 1982) and The Open University in Ireland. For over a decade Hibernia College Dublin has been offering its Higher Diploma in Arts in Primary Education which blends online and face-to-face tuition and this is now the pathway for a substantial portion of Primary Teachers.

2.4 Teacher Education

In Ireland Primary-level teachers are generalists while Secondary-level teachers are subject specialists.

Primary

The standard pathway for Primary school teachers is a three-year programme leading to a Bachelor of Education (B.Ed.) degree at one of five teacher education colleges. This is described as the ‘concurrent model’. There is also the popular part-time online course available from Hibernia College.

Another pathway into primary teaching for candidates who already hold honours degrees in approved subjects is the Graduate Diploma in Education (GradDip), an 18-month ‘consecutive’ course. Students learn subjects such as the history, philosophy and sociology of education and also gain competency in all the subjects on the primary school curriculum.

All Colleges of Education are associated with Universities. St. Patrick’s College Drumcondra and Mater Dei College are associated colleges of Dublin City University; Mary Immaculate College of Education, Limerick, is an associate college of the University of Limerick; the Church of Ireland College of Education, Froebel College of Education, and Marino College of Education are associated with Trinity College. NUI Maynooth and Froebel College have announced plans to establish a “Froebel Department of Early Childhood and Primary Education” at the University, with the Froebel teacher education college transferring to the Maynooth campus from September 2013.

Secondary

Teachers for secondary level typically hold an honours Bachelor degree from a higher education institute in their specialist subject and then complete a one-year Postgraduate Diploma in Education (PGDE) (formerly known as the Higher Diploma or H.Dip). This consecutive model of teacher education for aspiring second level teachers is available from the NUI colleges in Galway, Dublin, Cork and Maynooth, and also from Trinity College.

Variants on this traditional consecutive pathway include DCU’s two-year part-time Graduate Diploma in Education and the UL’s range of graduate diplomas specialising in business, languages, music, and physical education.

There are also concurrent degree courses for second level teachers that bypass the need for a postgraduate qualification. NUI Maynooth and the University of Limerick offer a four year BSc in Education, a modular science degree course that includes modules in education. UL also offers a teacher education course in Materials and Engineering Technology. Courses in Business and Economics are under consideration.

Concurrent degree courses for second level teachers are also offered by Colleges of Education specialising in Home Economics, Physical Education, Art and Music. St. Angela’s College Sligo (a recognised college of NUI Galway) offers a full-time, four-year course in Home Economics leading to a Bachelor of Education (B.Ed) degree.

Graduates of the Bachelor of Education (B.Ed) Home Economics with Religious Education are qualified to teach both Home Economics and Religion to Junior Certificate and Leaving Certificate at second level.

UL offers a BSc in Physical Education designed to qualify graduates as teachers of Physical Education and another subject in Second Level Schools. Teachers of art and of music can obtain degrees in the National College of Art & Design (NCAD) and the Royal Irish Academy respectively. The National College of Art and Design is a recognised college of University College Dublin.

Aspiring teachers of religious education at second level also enjoy several concurrent qualification options. St Patrick's College in Thurles is a college of education with a rich history of religious and humanities education dating back to 1837. The college currently offers two full-time BA (honours) degrees in Education which prepare teachers of Religious Studies and Irish or Business Studies and Accountancy for employment in post-primary schools.

The Mater Dei College in Dublin's Drumcondra offers a four year Bachelor of Education and Religion course with a choice of English, History or Music. It also offers a three year full-time BA programme in Irish Studies and Religious Studies which satisfies the Teaching Council for application to the PGDE. Alternatively students can opt for the part-time route with the modular BA in Irish Studies and Religious Studies which can be completed over a period of 4-6 years. St Angela's College offers a 2 year part -time Higher Diploma in Arts and Religious Education, run over weekends and school holidays.

Regulation of Teacher Education standards

The qualification requirements for primary and secondary teachers are set by the Teaching Council. This Council was established on a statutory basis in March 2006 to promote teaching as a profession at primary and post-primary levels, to promote the professional development of teachers and to regulate standards in the profession.

Teachers are employed by the school but are paid by the State and classed as public servants. A special Teacher Education Section (TES) was established in DES in 2004 to promote and support teacher education as a continuum from initial teacher education, through induction to continuing in-service professional development (known as the 3 "Is"). In-service teacher education has greatly expanded since the early 1990s.

TES funds the Professional Development Service for Teachers (PDST), a support organisation for primary and second level teachers operating in multi-disciplinary teams on a regional basis. PDST works in close co-operation with a nationwide network of statutory Education Centres (21 full-time and 9 part-time) as key partners in the provision of teacher continuing professional development (CPD). These Centres host the national programmes of curriculum reform and the support services which work on a range of issues relating to teaching and learning.

2.5 Statistics on the Irish Education System

Table 2.1: Number of full-time students in institutions aided by the Department of Education and Skills (2009–2010)

Levels	No. of Students
Primary Level	505,998
• Secondary	185,006
• Community and Comprehensive	54,425
• Vocational	111,245
Second Level	350,687
Third Level	156,785
University Sector	87,623
Technology Sector	59,832
Teacher Training Institutions	6732
Other Aided Institutions	2598
Total (all three levels)	1,013,470

Table 2.2 Number of schools aided by the Department of Education and Skills (2009–2010)

Levels	No. of Schools
• National Schools	3,165
• Special schools	130
Primary Level	3,295
• Secondary	384
• Community and Comprehensive	92
• Vocational	254
Second Level	730
Grand Total	4025

Table 2.3 Population with at least upper secondary education, 2008

	Percentage by age group				
	25-64	25-34	35-44	45-54	55-64
Ireland	69	85	75	62	45
OECD Average	71	80	75	68	58
EU19 Average	72	82	76	69	59

Source: OECD Education at a Glance 2010

Table 2.4 Population with tertiary education, 2008

	Percentage by age group				
	25-64	25-34	35-44	45-54	55-64
Ireland	34	45	37	27	19
OECD Average	28	35	29	25	20
EU19 Average	25	32	37	22	18

Source: OECD Education at a Glance 2010

Table 2.5 Irish public expenditure on Education as % of GDP 2007

	Ireland	OECD average	OECD total	EU19 average
Total	4.7%	5.7%	6.2%	5.3%

Source: OECD Education at a Glance 2010

3 The Enterprise Education system

3.1 Introduction

In chapter 2 it was observed that education has traditionally been highly valued in Ireland as a means of enabling personal growth through the discovery and development of innate abilities and values. Education transformed individual lives and entire communities. But the appreciation of education as an instrument of economic progress has been magnified in recent decades and education is now recognised as the key factor underpinning the productivity, competitiveness and growth of the modern knowledge-based economy.

In this chapter we trace the formal programmes of entrepreneurship education (EE) in place at the three levels in Irish education, primary, secondary and tertiary. In chapter 4 we go on to show how this formal curricular effort is complemented by informal, extra-curricular initiatives such as entrepreneurship award competitions and other entrepreneurship activities embraced by educators and students.

3.2 The Entrepreneurship Education system on a national, regional and local level

Evolution of Entrepreneurship education

Following the pioneering years of 'heroic' entrepreneurship in the 19th century 'business education' began to be introduced as a specialist area in HEI curricula. Originally it adopted a fundamentally institutionalist view of the world where people were seen as a resource to lead, manage and to be led and managed for the greater good of the corporation. The focus was on management science concerned with producing efficient and effective managers.

There had been sporadic entrepreneurship education initiatives by pioneering organisations such as Junior Achievement (in existence now for over a century), and it has been part of the business curriculum in a few select HEIs such as Harvard for over 50 years.

But it was the convergence of globalization, technological innovation, knowledge-based economies and demographic trends in the late 1970s that once more highlighted the key importance of entrepreneurship as a driving force of economic development through structural change and job creation. Since then

entrepreneurship education has progressively infiltrated the curricula of European higher education and has subsequently diffused to the secondary and primary levels.

There was residual unease in educational circles at the “hijacking” of education for “narrow” commercial ends, but the emerging broader vision of entrepreneurship education has brought about a rapprochement between the vocational mission and the ‘pure’ aims of a liberal education. This broad EE vision seeks to develop a number of characteristics in young people, including self-confidence, self-reliance, self-motivation, goal-setting, opportunity spotting, critical and creative attitudes and capacities. This chimes with the direction advocated by modern education theorists anxious to replace the passive, subject-centred model with an active, pupil/student-centred learning model.

Entrepreneurship educators welcomed this shift from the rigid rules and procedures that threatened to stifle the natural development of enterprising values and abilities of young people. For them, the ‘teacher as expert’ model of teaching is poorly suited to the achievement of enterprising outcomes. The ‘teacher as facilitator’ model is more relevant to achieving the goals of enterprise education, the development of innovation, autonomy, and responsibility in pupils. The locus classicus is a table in Gibb (1993) contrasting *‘Didactic and Enterprising Learning Modes’*. Enterprise education implies a whole-school ethos of democracy and participation where an enterprising disposition (“mindset”) and behaviour are recognised and supported.

Organisations such as Junior Achievement-Young Enterprise (JAYE) would argue that entrepreneurship education is best conducted outside the classroom as an extra-curricular activity, but educators argue that, if entrepreneurship education is to be treated with the importance it deserves, it must be brought in from the cold and made part of the formal education system.

EU campaign for Entrepreneurship Education

The EU has been to the fore in promoting entrepreneurship education and efforts have been intensified since the beginning of the millennium. EU policy on entrepreneurship education strongly commends introducing students to EE concepts at an early stage, recognising that pupils in primary and secondary schools will be the active citizens — and some of them the entrepreneurs — of tomorrow.

In 2000 the Feira European Council endorsed the European Charter for Small Enterprises which signalled *‘education and training for entrepreneurship’* as one of its ten key areas. The first guideline in the Charter states that *“Europe will nurture entrepreneurial spirit and new skills from an earlier age. General knowledge about business and entrepreneurship needs to be taught at all school levels.”*

A Commission report in 2001 invited member states to undertake a general reflection on *“the concrete future objectives of education systems.”* It discussed the Lisbon conclusions underlining the need for European societies to become more Entrepreneurial, the need to create *“a friendly environment for starting up and developing innovative businesses.”*

But the messages most young people receive during their education do not concern entrepreneurship — still less do they encourage most children to see setting up their own business as a viable alternative to being employed by someone else. And yet research suggests that such decisions are in practice taken as early as the age of 12 to 13.

The report did observe that entrepreneurship is wider than business activity — it is also an active and reactive spirit — something that society as a whole should value and invest in.

The 2003 European Commission Green Paper on Entrepreneurship in Europe urged the ‘fostering of capacity and skills’. One of the five key strategic areas in the Commission’s 2004 Entrepreneurship Action Plan was “*fostering entrepreneurial mindsets among young people.*” Birthistle (2006) remarks that this may not go far enough as it has been shown in the literature that parents and teachers have a strong influence on students’ perceptions of creating a new venture; therefore it is necessary to instil an entrepreneurial mindset not just in potential entrepreneurs, but in their role models, the parents and teachers, as well.

The work of the EU “*Best Procedure*” Expert Group (2001–2005) identified two parallel elements in entrepreneurship education:

- a broader concept of education for entrepreneurial attitudes and skills, which involves developing certain personal qualities and mindsets
- a more specific concept of training on how to create a business.

For them the objectives of entrepreneurship education, adapted to the different levels of education, include:

- Promoting the development of personal qualities that are relevant to entrepreneurship, such as creativity, spirit of initiative, risk-taking and responsibility;
- Offering early knowledge of and contact with the world of business, and some understanding of the role of entrepreneurs in the community;
- Raising students’ awareness of self-employment as a career option (the message being that you can become not only an employee, but also an entrepreneur);
- Organising activities based on learning by doing — for example by means of students running mini-companies or virtual firms;
- Providing specific training on how to start a business (especially in vocational or technical schools and at university level).

The 2008 EU Small Business Act, Think Small First, expressed concern that “*the education system, and in particular the school curricula, do not focus enough on entrepreneurship and do not provide the basic skills which entrepreneurs need.*”

It asserted that “*children can learn to appreciate entrepreneurship from the beginning of their education.*”

In 2009 a High Level Reflection Group of policy-makers was brought together to facilitate the exchange of best practice as part of the implementation of the Small Business Act 2008. The Group acknowledged the BEST objectives for entrepreneurship education and emphasised that developing the generic attributes and skills that are the foundations of entrepreneurship should be complemented by imparting more specific knowledge about business according to the level of education.

3.3 Entrepreneurship Education system at Primary level

The 2006 EU-promoted Oslo Agenda urged that entrepreneurship, in its broader definition, should be included in the curriculum for primary schools. It did note, however, that, at this level of education, it is important to convince schools, teachers and parents that entrepreneurship is perceived as a key competence for pupils, and that entrepreneurship education does not aim to turn all of them into businessmen.

The activities of the City and County Enterprise Boards (CEBs) in this area have reflected this view that entrepreneurship education should begin early in life:

“Research shows that most entrepreneurs come from entrepreneurial backgrounds where their parents have been engaged in business. In seeking to develop a thriving enterprise culture, it is critical that young people from all backgrounds see enterprise as a viable career choice. Entrepreneurial qualities and mindset need to be fostered from an early stage. If we are serious about developing an entrepreneurial ethos we must start with our school children and young people. We must listen to their ideas and actively support their innovations, as these can be the secret to the business successes of tomorrow. Our young people need to be open to the idea of creating a new job rather than looking for one.”

— Department of Enterprise, Trade and Employment (2004), *Local Enterprise — a Decade of Support. A Review of the City and County Enterprise Boards 1993–2003*

Yet, five years on from Oslo, an explicit inclusion of entrepreneurship in the national curriculum at primary level is still the exception in Europe, even for entrepreneurship as defined in its broad sense.

However, countries such as Ireland may credibly contend that this EU aspiration is substantially met in so much as the general primary curriculum provides for the development of ‘soft skills’ that are a prerequisite for the development of entrepreneurial attributes. Across the Irish primary curriculum pedagogical innovations aimed at an active and autonomous mode of experiential ‘learning by doing’ can nurture in young people those personal qualities that form the basis of entrepreneurship such as creativity, spirit of initiative, responsibility, capacity of confronting risks, independence.

There is also scope in the general curriculum to provide some early knowledge of and contact with the world of business, and some understanding of the role of entrepreneurs in the community. The extent of such specific entrepreneurship

education is very much dependent on the capacity of the individual school in terms of teacher enthusiasm (especially that of principals) and opportunities to interact with the business world.

The current Irish Primary School Curriculum was developed by the National Council for Curriculum and Assessment (NCCA) and launched in 1999. The vision for primary education espoused in the Curriculum is to nurture the child in all dimensions of his/her life: spiritual, moral, cognitive, emotional, imaginative, aesthetic, social and physical. It incorporates the child-centred principles of its predecessor, *Curaclam na Bunscoile* (1971) and identifies three primary aims of primary education:

- to enable the child to live a full life as a child and to realise his or her potential as a unique individual
- to enable the child to develop as a social being through living and co-operating with others and so contribute to the good of society
- to prepare the child for further education and lifelong learning.

It boasts a forward-looking framework covering:

- Literacy and numeracy skills
- Social and personal skills
- Learning and study skills
- Communication skills
- ICT skills
- Higher-order thinking skills
- Creative problem-solving skills.

The curriculum is organised in six curricular areas comprising eleven subjects. It emphasises the importance of literacy, numeracy, and language, while at the same time responds to changing needs in science and technology, social personal and health education, and citizenship.

Table 3.1 *Primary curriculum*

Primary Curriculum Areas	Subjects
Language	English, Irish
Mathematics	Mathematics
Social Environmental and Scientific Education (SESE)	History, Geography, Science
Arts Education	Visual Arts, Drama, Music
Physical Education	Physical Education
Social, Personal and Health Education (SPHE)	SPHE

As mentioned above, the aim of the Primary Curriculum is to generate a spirit of enterprise in the students' encounters with all their subject areas. In the Social Environmental and Scientific Education group, for example, the history class

can trace the technological and organisational waves in industrial progress, the geography class can debate the economic opportunities open to countries, and science can awaken pupils to the social and economic promise of research.

The Social, Personal and Health Education (SPHE) subject also affords possibilities to spark the broader aims of entrepreneurship education when it pursues its aims to enable the child to make informed decisions and choices about his/her life and to develop a sense of social responsibility and a commitment to active and participative citizenship and an appreciation of the democratic way of life.

Implementation of the Primary Curriculum

Following the launch of the Curriculum in 1999, all primary teachers participated in a national in-service programme to support teachers in working with the curriculum for each of the eleven subjects. The programme, completed in the 2006/2007 school year, was provided by the Primary Curriculum Support Programme (PCSP) and the School Development Planning Support (SDPS). Established in 2008, the Primary Professional Development Service (PPDS) subsumed and developed the work of these two bodies. It in turn, together with its secondary level counterpart, the Second Level Support Service (SLSS), has since been subsumed into the Professional Development Service for Teachers (PDST) which now provides all school support services.

Review of Primary Curriculum

In September 2003, the NCCA initiated a programme of curriculum review at primary level. Phase I of the review focused on the first three subjects for which teachers received in-service support, namely English, Visual Arts and Mathematics. The NCCA published a report on this phase of review in May 2005. Phase II focused on a further three subjects, namely Irish (Gaeilge), Science, and Social, Personal and Health Education (SPHE). The NCCA published a report on this phase in June 2008.

Review II noted among the successful outcomes for SPHE an increase in children's self-esteem and self-confidence and their acceptance of and ability to communicate effectively with others. Teachers also highlighted their use of different teaching methods such as circle time as a key success.

Challenges

Across the three Phase II subjects resources were identified as one of the greatest challenges to curriculum implementation. In respect of the SPHE subject respondents noted a lack of resources and the difficulty of locating and assembling them.

NCCA set up a school network to focus on the challenges arising from the reviews. These challenges particularly related to assessment and curriculum overload.

Curriculum overload

During the two review phases of the Primary School Curriculum a strong message came from teachers and principals that they did not have enough time to 'teach it all.'

The two inhibiting factors cited by teachers were the size of the curriculum and the range of individual learning needs represented by children in their classes.

'Re-presenting' the Primary School Curriculum

NCCA are responding to the challenge in a number of ways. One approach is to work with teachers to explore different formats for 're-presenting' curriculum subjects in order to make the content of the 11 curriculum books more accessible and user-friendly.

3.4 Entrepreneurship Education system at Secondary level

The Irish second level curricula are set out in Table 3.2 below.

Table 3.2: Second level curricula

Junior Certificate Subjects	Leaving Certificate (established) subjects	Leaving Certificate Vocational Programme	Leaving Certificate Applied subjects
Irish English Mathematics Geography History Latin Greek Classical Studies Hebrew Studies French German Spanish Italian Science Technology Home Economics Music Art, Craft and Design Material Technology (Wood) Metalwork Technical Graphics Business Studies Typewriting Environmental and Social Studies Civic, Social and Political Education Religious Education	Accounting* Agricultural Science Ancient Greek Applied Mathematics Arabic Art Biology Business* Chemistry Classical Studies Construction Studies Economics* Engineering English French Gaeilge Geography German Hebrew Studies History Home Economics Italian Japanese Latin Mathematics Music Physics Physics & Chemistry Religious Education Religious Education (Non Examination) Russian Spanish Design and communication graphics Technology *'Business Studies' Group	Minimum of 5 LC Subjects - 2 from VSGs [Specialist Groupings or Services Groupings] plus 2 Link Modules -Prep for World of Work 1. Introduction to Working Life 2. Job-seeking Skills 3. Career Investigation 4. Work Placement - Enterprise Education 1 Enterprise Skills 2. Local Business Enterprises 3. Local Voluntary Organisations/Community Enterprises 4. An Enterprise Activity	Vocational Preparation Vocational Education General Education

Junior Cycle

As in Primary level, the new Junior SPHE affords ongoing opportunities for the development of entrepreneurship 'soft skills' as part of the educational experience of all students at junior cycle.

A non-examination subject introduced on a phased basis to junior cycle since 2000, the SPHE curriculum is presented in ten modules. It is intended that each module will be re-visited during each year of junior cycle education. The modules are:

- Belonging and integrating
- Self-management
- Communication skills
- Physical health
- Friendship
- Relationships and sexuality
- Emotional health
- Influences and decisions
- Substance use
- Personal safety.

Also pertinent to social entrepreneurship skills is the Civic, Social and Political Education (CSPE) subject introduced in 1997. Through active exploration and study of citizenship at all levels (personal, local, national, global) in the context of contemporary social and political issues, this course aims to

- make students aware of the civic, social and political dimensions of their lives;
- develop the autonomous potential of students as socially literate, independent and self-confident young people;
- encourage and develop the practical skills which enable students to engage in active participatory social interaction, and to adopt responsible roles as individuals, family members, citizens, workers, consumers, and members of various communities within a democratic society;
- enable students to develop their critical thinking skills in agreement with a system of values based in human rights and responsibilities.

But the most specific area for entrepreneurship education at Junior Cycle is clearly the Business Studies course, taken by some two thirds of JC students.

The Business Studies syllabus is balanced between the business education necessary for the individual/household area and business education in the commercial context. This balance is achieved by devoting separate syllabus sections to '*the Business of Living*' and '*Enterprise*'. The business concepts and skills introduced in one are restated and reinforced in the other. A section on economic awareness forms a bridge between these two sections. It thus educates pupils to make informed decisions in the '*everyday business of living*', contributes to their understanding of the business world, and encourages a positive attitude to enterprise.

The memorable mnemonic HIDRIPP serves to represent the specific enterprise skills learned:

- Human relations
- Inner control
- Decision making
- Risk taking
- Innovation
- Planning (Goal setting)
- Problem solving.

Junior Cycle Review

Since the Junior Cycle curriculum was introduced in 1989 the NCCA has been undertaking a review of the curriculum on a rolling basis. A large number of people, agencies and groups are involved in the consultation through making submissions, attending meetings, completing short questionnaires or by blogging.

NCCA issued a series of important discussion documents including:

- **NCCA (1999), *The Junior Cycle Review: Progress Report: Issues and Options for Development*** which suggested that the junior cycle curriculum should be viewed as having a wider perspective than the mere choice and range of subjects and their examination.
- **NCCA (2008), *Leading and Supporting Change in Schools*** was issued as the economic downturn began to bite in Ireland.
- **The NCCA (2010), *Innovation and Identity: Ideas for a new Junior Cycle*** document outlined 5 possible pathways towards change:
 - From curriculum conformity to schools having freedom to be different
 - From the Junior Certificate to qualifications designed for all
 - From the three years in junior cycle to three years of junior cycle
 - Towards a renewal of learning and teaching
 - From generating an examination grade, towards generating evidence of learning.

During the NCCA consultations, in addition to generic issues such as ICT, Special Educational Needs and Intercultural Education, the specific issues raised included assessment approaches, the actual level of curriculum overlap and overload, and the manageability of the programme at school level in terms of time allocation and subject choices.

The NCCA responded to these areas of concern by instituting a number of initiatives. In regard to the overlap and overload concerns it embarked on a process of 'rebalancing' the junior cycle curriculum. This work included

- rewriting each syllabus to a common template
- writing learning outcomes for each syllabus
- updating each syllabus and removing unnecessary overlap
- lining each syllabus up with changes in the Primary School Curriculum and with any changes at Leaving Certificate
- making minor changes to assessment.

Rebalancing was first applied to five Junior Certificate subjects (Art, Craft & Design; English, History, Home Economics and Music) and the feedback was positive. The resultant reduction in subject content was welcomed as it would allow time for a deeper teacher and student engagement with learning in the subjects. However, concern was expressed that too much reduction might cause a gap to emerge between Junior Certificate and Leaving Certificate. The course review committees tried to strike a balance between achieving a reduction in overload and avoiding the development of any such gaps.

The rebalanced syllabuses have been revised on the basis of the feedback and have gone for approval to the Council of the NCCA, following which they will be issued to the Department of Education and Skills. The rebalanced syllabuses will be accompanied by a strategy proposal on how their introduction might be best supported.

NCCA have begun the rebalancing of seven more junior cycle subjects: Business Studies, Classics, Environmental and Social Studies, Gaeilge, Geography, Religious Education and Technical Graphics. They will be consulting on these subjects shortly.

Resulting from the comprehensive research and consultations a Framework for Junior Cycle is emerging around six key skills:

- Managing Myself
- Wellbeing
- Communicating
- Being Creative
- Working with Others
- Managing Information and Thinking.

Key Skills have become the focus of attention at all levels of education systems around the world, and the subject is taken up again when we discuss the proposals for Senior Cycle Revision. It is intended that the JC key skills will promote continuity with those identified for Senior Cycle.

Entrepreneurship Education (EE) in Senior Cycle

Entrepreneurship education in the senior cycle is mediated through the established Leaving Certificate's 'Business Studies' group which comprises three subjects — Business, Economics and Accountancy.

Options such as the Transition Year, the Leaving Certificate Vocational Programme and the Leaving Certificate Applied provide for more active-learning approaches with a strong focus on personal development and teamwork. Students engaging in these programmes have an opportunity to consider enterprise in the wider context of personal, community, social and business enterprise.

An important point to note here is that all the above are elective options and it is possible for a very substantial portion of students to navigate through Senior Cycle with very little exposure to entrepreneurship education.

Transition Year (TY)

The Transition Year is a unique one year programme for students who have completed the Junior Certificate. It provides a bridge to enable them to make the transition from the more dependent type of learning associated with the Junior Certificate to the more independent learning environment associated with the Senior cycle. TY fosters academic achievement as students prepare for a Leaving Certificate programme, further study and adult and working life.

TY was introduced as a pilot project in September 1974 but it was not until September 1994 that the programme was introduced as a mainstream option. A balance is provided between a continuation of essential core subjects, a tasting and sampling of other subjects, including work experience and activities specifically aimed to promote maturity over the course of a programme. There are no formal examinations.

The Transition Year does not have a prescribed national curriculum. Each school designs its own programme according to a recommended curriculum framework laid down by the Department of Education and Skills but taking account of students' needs, the school's vision for its students and the resources available in designing its Transition Year programme. The school maintains an up-to-date Transition Year programme document that defines the school's curriculum for the year.

TY consists of four areas of study/activity as follows:

- **Core subjects:** these are subjects such as Irish, English, mathematics and physical education which are taken by students throughout post-primary school. Core subjects are taught for the full duration of Transition Year.
- **Sampling subjects:** these subjects are included to give students opportunities to experience a range of subjects so that they can select their Leaving Certificate subjects in a more informed way. For example, schools could decide to offer three science subjects to Transition Year students. Equally, they could provide the three business subjects or they could focus on a wide range of practical subjects.

- **Transition Year modules:** these modules provide students with opportunities to develop important life skills. They tend to cover areas such as computer skills, first aid, self-defence, personal development, car mechanics and interior design.
- **Calendar events:** these are learning experiences which aim to challenge the students' practical and personal skills as well as giving them opportunities to develop their sense of responsibility. They normally take place over a short concentrated period of time, once or twice per year. They can take the form of work experience, community work, mini-companies and challenging tasks within the school such as the publication of newsletters, the organisation of a parents' evening or the staging of a play or musical.

TY assessment is on an ongoing basis with portfolio assessment, project work, and exhibitions of students' work; oral, aural, practical and written activities all form part of this assessment process. Since 2000, the Department has issued an official Transition Year Certificate to participants in addition to schools providing their own school-based certification. It is by now firmly embedded in the Irish system, on offer in three quarters of second level schools and taken up by over one third of second level students.

Leaving Certificate Programme

Established Leaving Certificate: Business

The Business course in the Leaving Certificate is an optional subject in many schools and is selected by less than half of LC students. The course is structured as a continuum with the syllabus designed for the business studies course at Junior Certificate Level. It offers students an understanding of the Irish business environment and the wider economic world. It provides a context for students to build from exemplars in their own lives and apply them to the wider business environment. One of the objectives of the course is '*to create a positive attitude towards self employment*'.

Table 3.3: *Leaving Certificate Business syllabus*

Structure	
Unit 1: People in Business	Unit 5: Business in Action
Unit 2: Enterprise	Unit 6: Domestic environment
Unit 3: Managing 1	Unit 7: International environment
Unit 4: Managing 2	

The two key units as regards entrepreneurship education are Unit 2 and Unit 5.

Enterprise comprises one full unit, emphasising its significance within the Senior Cycle Business module. Topics covered include Introduction and Definition of Enterprise, Entrepreneurs and Enterprise Skills.

Unit 5, Business in Action, enables students to understand the stages involved in setting up a business enterprise. This unit views business as a living, dynamic entity. It examines a business start-up from the generation of the initial idea to the development of the business plan. There is a focus on the relationship between

the business and its clients and on how the business must develop in response to changes in the market place. The three main themes are:

- Identifying Opportunities
- Marketing
- Getting started.

Teaching methodologies

The emphasis for business subjects has changed to a more vocational and enterprise orientation. The teaching methodologies reflect this emphasis with the LC Business syllabus now taught in a more 'active' way.

However, while it is appreciated that enterprise theory comprises a full unit of the traditional Leaving Certificate business course, students who do not complete Transition Year miss out on real practical business experience. One suggested solution is to make Transition Year compulsory in all secondary schools — this would ensure that each student could benefit from partaking in the mini-company experience — but others argue that the personal enjoyment and motivational elements of the TY experience may be undermined by the presence of students lacking a genuine motivation to participate.

Resources

A substantial body of resources has been assembled for the teaching of Business at Leaving Certificate. Resources in this context refers to anything that supports the teaching of Business in schools, including presentation packages, posters, wall charts, newspapers, books and videos. Resource sources can be found in the journals of the Business Studies Teachers' Association of Ireland (BSTAI) which provide a comprehensive review of all developments taking place in the business subject in second level schools.

Leaving Certificate Vocational Programme (LCVP)

The LCVP was introduced in 1994 in response to the challenge placed on Ireland's education system by a changing work and business environment. The intervention was designed to enhance the vocational dimension of the established Leaving Certificate in line with the recommendations of the Culliton and OECD reports.

The LCVP combines the academic strengths of the established Leaving Certificate with a new and dynamic focus on self-directed learning, enterprise, work and the community. The most striking feature of the two year LCVP is a broader and more interdisciplinary approach to the vocational dimension of the programme to better serve those pupils for whom the established course was too restrictive. The enrolment number in the LCVP for school year 2009/10 was approximately 36,500.

The LCVP is not a separate stand-alone programme, but is taken in association with the established Leaving Cert. Students who take the LCVP must take a minimum of five established Leaving Cert subjects, at higher, ordinary or foundation level, including Irish, unless they are exempt from it. So the LCVP is like an additional

subject taken alongside established Leaving Cert subjects, and it may be counted as a sixth subject for points purposes.

The core of the LCVP includes the following elements:

- Two of the five LC subjects must be selected from one of two designated Vocational Subject Groupings (VSGs) — Specialist Groupings consisting of subjects which complement one another naturally, and Services Groupings comprising subjects which complement one another in a commercial context. The VSG's are reviewed annually and new combinations introduced in response to changing needs.
- Students are required to follow a recognised course in a Modern European Language (other than Irish or English).
- They must study two Link Modules, namely Preparation for the World of Work and Enterprise Education. Link Module activities provide a setting in which connections can be made between a student's vocational subjects and the world outside the school.
 - **Link Module I — Preparation for the World of Work** is designed to develop students' general understanding of the world of work, introduce them to career research and provide them with the knowledge and skills to find employment. As part of this module each student is expected to complete a career investigation and engage in a work experience or work shadowing placement.
 1. Introduction to Working Life
 2. Job-seeking Skills
 3. Career Investigation
 4. Work Placement.
 - **Link Module II — Enterprise Education** aims to develop creativity, resourcefulness, self-confidence and initiative. Students are encouraged to interview enterprising people, investigate local enterprises and to set up their own enterprise projects as vehicles of learning.
 - 1 Enterprise Skills
 2. Local Business Enterprises
 3. Local Voluntary Organisations/Community Enterprises
 4. An Enterprise Activity.

The link modules are activity-based, e.g. the organisation and running of mini-enterprises, visits to community and business enterprises, investigations of the local community. These can extend outside the school hours.

Assessment of the Link modules consists of two elements:

I. Written examination (40% of marks)	II. Portfolio of coursework (60% of marks)
<p>Content:</p> <p>Section A: Audio-visual presentation Section B: Case-study (received in advance by students) Section C: General questions (4 out of 6)</p>	<p>Content:</p> <p>Section I: Core items</p> <ul style="list-style-type: none"> • curriculum vitae • career investigation • summary report • enterprise/action plan <p>Section 2: Optional items (2 out of 4)</p> <ul style="list-style-type: none"> • diary of work experience • enterprise report • recorded interview/presentation • report on My Own Place

Results for the LCVLP Link modules are awarded in three grades, Distinction, Merit or Pass. Within the entry scoring system, all third level institutions have agreed to accept the link modules for points on the following basis:

Pass: 30 points

Merit: 50 points

Distinction: 70 points.

Leaving Certificate Applied Programme (LCA)

The LCA is a two year Leaving Certificate programme which places emphasis on forms of achievements and excellence which the traditional L.C. has not recognised in the past. The LCA is taken by approximately 6% of senior cycle students (roughly 7,000 students were enrolled over the two years in school year 2009/10).

The principal aims of the LCA are:

- To prepare students for the transition from the world of school to adult and working life
- To meet the needs of students who are not catered for by other leaving certificate programmes
- To enhance the personal and social development of participants
- To provide access to further education for those students who successfully complete the programme.

Because the principal aim of the programme is to equip the students with the necessary skills for work, a strong emphasis is placed on work experience and work simulation. Opportunities exist within the programme for developing personal and social qualities of the students including self-confidence, responsibility, co-operation, teamwork, problem solving, independence, decision making and initiative.

Elements of the Programme

The programme, which is of two years' duration, has three main elements:

1. Vocational Preparation

2. Vocational Education
3. General Education

A range of courses is provided within each of these elements.

Principles of Course Design

The following principles form the basis for the design of these courses:

- Courses to consist of short, self-contained modules
- Student Tasks to be used as a means of integrating courses
- Progression from Year 1 to Year 2
- Schools to have flexibility within overall national provision.

LCA Courses

The Leaving Certificate Applied programme consists of a range of courses, each designed on a modular basis. A module is of thirty hours duration. Each year of the two-year programme is divided into two sessions, September to January and February to June, to facilitate the modular structure of the courses. A module within a given course is usually completed within a session. Over the two-year duration of the programme the participants will complete 44 modules.

The LCA courses of particular relevance from an EE perspective are the 'Vocational Preparation & Guidance' and 'Vocational Specialisms' groups:

Vocational Preparation & Guidance	Vocational Specialisms
Module 1: Guidance Module 2: Jobsearch Module 3 & 4: Work Experience Module 5: Enterprise 1, 2 & 3 <i>Running an enterprise from the class-room</i> <i>Running a non-profit making activity/event</i> <i>Key assignments [Enterprise 1 and 2]</i> Module 6: Community work	Agriculture/horticulture Childcare/community care Graphics and construction studies Craft and design Engineering Hair and beauty Hotel, catering and tourism Office administration and customer care Technology

Assessment

Assessment for the LCA takes place over the two years of the programme under three headings:

Satisfactory completion of modules	(62 credits)
Performance of student tasks	(70 credits)
Performance in terminal examinations	(68 credits)

Students who successfully complete the programme are awarded the Leaving Certificate (Applied). This certificate is awarded at three levels:

Award	Results	Credit
Pass	120–139 credits	60%–69%
Merit	140–169 credits	70%–84%
Distinction	170–200 credits	85%–100%

Candidates who acquire less than 120 credits receive a Record of Experience. Students who do not complete the full programme also receive a Record of Experience.

Review of Senior cycle

Since 2002 senior cycle education has been undergoing an extensive review by the NCCA in consultation with teachers, students and school managements, and informed by research undertaken by the Economic and Social Research Institute (ESRI) on the experience of learners as they progress through their post-primary schooling.

In 2004 the Enterprise Strategy Group report recommended that *“Entrepreneurial skills should be included in the syllabus for the senior cycle and any necessary curricular changes made at primary and junior cycle level (action: National Council for Curriculum and Assessment).”*

The NCCA consultations indicated a desire for:

- a different learning experience and school culture for senior cycle students
- a curriculum that helped develop skills as well as knowledge and understanding
- more varied assessment arrangements and a new certificate.

It was felt that this kind of change would help to keep students in school to the end of senior cycle, keep them motivated and engaged, and prepare them for future lives of learning. Since 2006 developments in curriculum and assessment have focused on moving senior cycle in these directions.

Flexible learning profiles (FLPs)

NCCA is exploring the use of personalised ‘flexible learning profiles (FLPs)’ for senior cycle students to cater for a broader range of abilities, interests, learning styles and special needs. A greater range of curriculum components is envisioned to allow for choice and flexibility:

- **Subjects** will comprise 180-hour courses of study. There will be some new subjects — the first of these is Politics and Society — and a number of existing subjects are being revised.
- **Short courses** — 90-hour courses, outcome based, and valued for the points system. They will provide preparation for the world of work. The first two sample

short courses developed for consultation are Enterprise and Psychology, the Enterprise programme developed in partnership with government agencies.

- **Transition units** — 45-hour courses that would be developed and assessed in schools to a common template. Potential areas include community participation, arts education, ICT and study skills. This will be recognised on the Certificate and will comprise a matriculation requirement for entry to higher education.

One of the Short Courses planned is entitled Enterprise. A particular impetus for making enterprise education a more formal part of the education system in Ireland came from an Enterprise Strategy Group (2004) recommendation and this was echoed in 2006 by the Small Business Forum's call to reinforce entrepreneurship in the education system.

Based on the LCVP link module of the same name, this short course aims to foster confidence, creativity and initiative and to develop teamwork, communication and computer skills. It will provide students with a more realistic understanding of how and why enterprises operate and a greater awareness of enterprise in action in business, in the community, at home and in the school. The course will particularly focus on the exploration of enterprise concepts in actual business settings through, for example, organising visits to local business and community enterprises, and meeting and interviewing enterprising people on-site and in the classroom.

The proposed short Enterprise course will have four units:

Unit 1: Exploring Enterprise

Unit 3: Community Enterprise

Unit 2: Business Enterprise

Unit 4: The Entrepreneur in Me

The first unit sets out to provide learners with an understanding of the key concepts underpinning enterprise and the characteristics of an enterprising individual. In subsequent units learners will examine how enterprise might be manifested in business and community settings. The course will particularly focus on the exploration of enterprise concepts in actual business settings through, for example, organising visits to local business and community enterprises, and meeting and interviewing enterprising people on-site and in the classroom. In the final unit the learners are expected to participate in an enterprise activity themselves, drawing on the knowledge and skills they have learned during their study.

If this course comes to pass enterprise education will become a more formal part of the education system in Ireland and will be implemented through policy devised by the Department of Education and Skills.

It is envisaged that the most beneficial aspects of the LCVP will be accessed by more students than at present. The LCVP Link Modules will be available to all students as short courses and transition units. It will be feasible for students taking either a two or three-year programme of study to combine, for example, a short course in Enterprise Education with one or more transition units in Preparation for the World of Work. Furthermore, the flexibility inherent in programmes of study will remove

the barrier that designated subject groupings currently present to participation in the LCVP for many students.

NCCA is also looking at the potential to further enhance flexibility by moving from a static learning environment to a dynamic, active way of learning within the school and community. This would involve a partnership approach comprising links with local organisations, individual members of the community and third level colleges. Students would not be tied to the traditional timetable but instead would have flexibility built into their school week.

The new curriculum would provide access to a greater variety of assessment methods and for the introduction of a new inclusive certificate of senior cycle education. The developments are linked inextricably to a changing culture of schooling, where learners will take greater responsibility for their learning choices, activities and achievements. It would strike an appropriate balance between knowledge and skills and promote the kinds of learning strategies associated with participation in and contribution to a changing world where the future is uncertain.

Key skills framework

In parallel with the European Framework for Key Competences (2007) which identified eight key competences for lifelong learning including entrepreneurship education, and with the OECD DeSeCo (Defining and Selecting Key Competencies) initiative which identified three key areas, the NCCA in consultation with its stakeholders has evolved its own Irish framework of five key skills which it has identified as central to teaching and learning across the senior cycle curriculum:

- information processing
- being personally effective
- communicating
- critical and creative thinking
- working with others.

These five capabilities are identified as the core skills required by all learners to achieve their potential, both during their time in school and in their subsequent career. They enable learners to participate fully in society, including family and community life and the world of work.

The goal of NCCA is to enable students to develop the key skills throughout the curriculum. They will be developed through the learning outcomes of each subject, short course and transition unit. This approach of embedding the key skills within all curriculum components ensures their relevance and use value for learners.

Consultation on the new senior cycle curriculum is expected to be completed at the end of 2011 and the decision then rests with the Department of Education and Skills (DES). But considering that DES will be severely challenged by shrinking budget allocations and shrinking teacher numbers as the Government continues to correct

its massive fiscal imbalance the adoption of this impressive suite of NCCA change proposals remains uncertain.

3.5 Entrepreneurship Education in Further Education

The term “Further Education (FE)” embraces education and training which occurs after second-level schooling but which is not part of the third level system.

The two largest programmes are the Post-Leaving Certificate (PLC) courses for young people seeking to upgrade their qualifications, and training courses for young job-seekers provided by FÁS, the national training authority.

Entrepreneurship Education in Further Education

It was difficult to determine from viewing the web sites of College of Further Education just what level of EE was being provided in their courses.

We were informed that all PLC courses included a work experience module as a mandatory requirement for FETAC certification. Some of these courses contained the FETAC ‘Start Your Own Business (SYOB)’ module.

It is difficult to get an accurate measure of the number of youths involved in these courses — in its presentation of student numbers for its different courses the annual FETAC Awards Report does not differentiate between adult and youths. It would also require the conduct of a few selective case studies to evaluate the calibre of the EE involved in the SYOB modules.

3.6 Entrepreneurship Education system at Third level

A profile of entrepreneurship education in the HE sector will take on a somewhat different character to the foregoing description of entrepreneurship education in the primary and second level sectors which has been presented in terms of aggregated national data.

Because the total number of HE institutions is more ‘tractable’ (Ireland has 7 Universities, 14 Institutes of Technology and approximately 12 private institutions offering HETAC awards; contrast these figures with the 3,000 primary schools and 700 second level colleges), and because these institutions have ‘dedicated’ staff who champion, monitor and report on entrepreneurship education developments in their own institutions, it is possible to present a more fine-grained portrait indicating the strengths and weaknesses of individual EE providers.

It is also the case that this sector enjoys greater international attention and benchmarking — though it should be noted that EU reports on the HE sector invariably include a recommendation that policy-makers should take a holistic view of the education system including primary and second level; and there have been substantial EU research projects focused on the primary, secondary and vocational education sectors.

The reason for the keen attention on EE at HE level is obviously because it is here that many significant innovative start-ups occur. Students at this stage should have

assimilated a substantial body of theory and know-how right up to the knowledge frontier, and those among them with an entrepreneurial mindset will be eyeing commercial opportunities to launch into the world of work. Consequently there is a huge economic dividend to be reaped from investing policy attention and supports in fostering an entrepreneurial mindset across the whole HE student population.

Our review of published documentation of relevance to EE in the Irish HE sector has identified key international benchmarking sources:

- The NCGE has published a number of authoritative studies on ‘*the entrepreneurial university*’ and these are setting the benchmark internationally:
 - Gibb (2005), *Towards the Entrepreneurial University*
 - Gibb and Hannon (2006), *Towards the Entrepreneurial University?*
 - Botham, R. and Mason, C. (2007). *Good Practice in Enterprise Development in UK Higher Education*, NCGE Research Reports, NCGE: London.
 - Gibb, Haskins and Robertson (2009), *Leading the Entrepreneurial University — Meeting the entrepreneurial development needs of higher education institutions*
- The European Commission has recently issued two important reports on EE in the HE sector in 2008, further clarifying the benchmark for EE in HEIs:
 - *Entrepreneurship in higher education, especially in non-business studies*, Final Report of the ‘Best Procedure’ Expert Group. (March)
 - *Survey of Entrepreneurship in Higher Education in Europe*. Main Report. (Oct). [NIRAS survey].

This international literature helped inform our reading of the key recently published Irish reports on EE in the Irish HE sector:

- Cooney, Thomas M and Trudie M. Murray (2008), *Entrepreneurship education in the third-level sector in Ireland*
- The Accelerating Campus Entrepreneurship Partnership (ACE)(2009), *Entrepreneurship Education in Ireland. Towards Creating the Entrepreneurial Graduate*.

With Thomas Cooney as a member of our project team we were able to go beyond our project remit of reviewing existing published material and come up with fresh HE research results on two fronts.

First, the INTRE network was requested to update the 26 HEI profiles in the 2008 Cooney report. Given the busy academic calendar and the tight deadlines for this project, not all HEIs responded, but the exercise helps to provide an up-to-date account in the rapidly shifting EE story.

An even more exciting opportunity arose because of Thomas Cooney’s good working contacts with NCGE and, its Director, Paul Hannon in particular. NCGE had carried out a survey of EE in the UK HE sector for the academic year 2009/10. NCGE now agreed to run a pilot survey in collaboration with the SERA/YES project to capture

Irish HEI data for the same academic period 2009/10 using the INTRE network (in tandem with their Cooney refresh work). Again a caveat is warranted: the sharp deadline for our project meant that there hasn't been time to get back to the pilot respondents in order to iron out their learning-curve errors, but, again, as with the refreshed Cooney Report, new research data is always at a premium.

International documents

The Gibb (2005) paper rejected as inappropriate the traditional model of entrepreneurship education prevalent in many North American and European business schools. Gibb argued that a radically 'new paradigm' for entrepreneurship education in the HE sector was needed and put forward a very captivating and convincing 'caricature' of the 'entrepreneurial person' with its implications for EE in HEIs.

Gibb had particularly harsh words for the centrality given to the Business Plan in dealing with entrepreneurship generally and consequently in EE:

This is the wrong metaphor for entrepreneurship. Business plans were not invented by entrepreneurs but by banks, accountants and other professional service providers and reflect the culture of their world. There is little evidence to indicate a strong relationship between business planning of this kind and success.

— Gibb (2005), *Towards the Entrepreneurial University*

Having identified the gap between the traditional competencies and approach of UK Universities (typically, classroom pedagogies underpinned by a "business-plan" project) and the training requirements for entrepreneurs, NCGE went on to develop the International Entrepreneurship Educators Programme (IEEP) which aimed to build the professional capability of entrepreneurship educators within the HE environment. The programme adopts an entrepreneurial ethos and participants are expected to be active co-learners along with the international faculty of experts, over the eighteen-month duration of the programme. Underpinning the programme is a wide array of well developed pedagogies based on action and experiential learning.

The Gibb paper presented the celebrated 'Gibb Outcomes framework' listing the trademark skills of an effective entrepreneurial HEI's graduates (this framework is widely replicated in the literature and proposed for impact evaluation studies):

1. Entrepreneurial behaviours, attitudes and skills developed
2. Empathy with the life world of the entrepreneur
3. Key entrepreneurial values inculcated
4. Motivated toward an entrepreneurial career
5. Understanding of the processes of venture creation, entry and associated tasks
6. Generic entrepreneurship competencies developed
7. Key minimum business "How Tos" acquired

8. Effective management of stakeholder relationships

Useful insights from the Gibb and Hannon (2006) paper include:

- The US HEIs are still not particularly advanced in their efforts to embed EE across all disciplines
- Measuring the impact of EE in HEIs needs to be patiently longitudinal — the optimum age range for business creation has been estimated at 26 to 34 years
- There is a noticeable move in the US to relocate entrepreneurship programme delivery away from the business schools and into the office of the Provost or Principal. There is also a move to develop university entrepreneurship approaches that are more independent of the business paradigm.

The Botham, R. and Mason, C. (2007) paper described the deployment of ‘hatcheries’ in UK HEIs. This refers to the provision of pre-incubator serviced spaces and mentoring assistance in entrepreneurship centres for intending entrepreneurs at undergraduate level who wish to develop a business plan while completing their studies.

While the physical facilities are important, more important is ready and ongoing access to advice and assistance both via formal mechanisms (e.g. from Business Link advisors, mentors and coaches) and informally (e.g. hatchery administrators, academic staff). Having been accepted as members, students get access to a range of seminars, breakfast events and other educational and networking opportunities on offer via the Hatchery. In some cases, membership of the hatchery is being linked explicitly to accredited education. For example, at the University of Coventry, membership requires students to ‘sign up’ to entrepreneurship options offered in the context of the wider employability agenda.

While member students generally spend their time on practical business preparation such as market research, analysis of competitors and preparing a business plan, some also begin trading. From the student perspective, it is a low cost, low risk ‘soft’ start-up strategy. From the HEI’s perspective, it is a relatively low cost means of supporting student enterprise.

Gibb, Haskins and Robertson (2009) made interesting points about differentiating the EE offering between undergraduates and postgraduates:

Most of the Experts agree that objectives, contents and methods of teaching may differ according to the level of education. While with undergraduates the most important thing will be to work generally on students’ mindsets and to stimulate interest in self-employment and business creation (awareness and motivation elements), graduate and post-graduate students will need practical tools (such as business plan competitions) and concrete support for their business ideas.

— Gibb, Haskins and Robertson (2009), *Leading the Entrepreneurial University — Meeting the entrepreneurial development needs of higher education institutions*

The paper also made interesting observations about the particular requirements of specific disciplines:

- the economic and business fields
- science and technology studies
- humanities
- creative arts and design.

The EU (2008) Final Report of the 'Best Procedure' Expert Group, *Entrepreneurship in higher education, especially within non-business studies*, first discussed the importance of education for entrepreneurship and then gave a brief overview of EE progress in the European HE sector.

Among its findings:

- In general, there is in Europe a shortage of entrepreneurship studies within non-business institutions and disciplines: entrepreneurship is not yet sufficiently integrated into different subjects of the curriculum. Available data from some European countries show that the majority of entrepreneurship courses are offered in business and economics studies.
- While the demand for learning about entrepreneurship is increasing, there is a shortage of human resources and funding for this type of education, making it impossible to meet this demand fully.
- There are currently too few professors of entrepreneurship. There is a need to graduate enough PhD students in entrepreneurship who can become teachers.
- There is very little in terms of incentives to motivate and reward teachers for getting involved in entrepreneurial teaching and activities with students. It is currently difficult to build a career in entrepreneurship, as research remains the main criterion for promotion.
- Increased funding from the government can enforce changes within universities. Policy level changes to funding would have an immediate effect on institutional behaviour and the internal allocation of resources.
- Faculties and departments are working quite separately, with too many obstacles for students who want to move and for teachers interested in establishing cross-disciplinary courses. A rigid curriculum structure is often an impediment to an inter-disciplinary approach
- Although a wide range of methodologies exist — supplementing lectures as the most basic tool of teaching — there seems to be a gap between the methods applied and those that are seen as the most effective and appropriate.

Cooney contributed the profile on Ireland:

Entrepreneurship learning initiatives have been growing in demand and popularity in recent years in Ireland, and many higher education institutions

are now delivering specific modules in entrepreneurship and other innovative enterprise subjects, such as new venture creation and enterprise development. These programmes are not only being delivered to business faculties, but more recently there has been an increase in the demand for and interest in entrepreneurship from faculties such as Engineering, Science, and Arts. Incorporated into many of these modules are the practical elements of new venture creation, offering students the opportunity to create business plans and work in conjunction with prominent entrepreneurs, both national and international.

The Expert Group Report also discussed:

- EE pedagogics, educator skills and training requirements
- Criteria for good practice in delivering entrepreneurship education
- Obstacles & Success Factors
- How to move forward — an EE Strategy (setting out the role for policy-makers, HEI Management and Educators, and other Stakeholders, especially Business).

The EU Survey of Entrepreneurship in Higher Education in Europe. Main Report was prompted by the dearth of existing data on EE performance in the European HE sector. It carried out a twin-track survey, canvassing 664 HEIs in a general survey to ascertain the state of play in European entrepreneurship education, and following up with a specific survey of 200 EE-performing HEIs to identify good practice examples and gather evidence on which to base policy recommendations.

The overall “worrisome” finding was that just over 50% of the 664 HEIs provided EE in any form. For these providers, only 50% of their students had access to entrepreneurship education.

The Report assessed the EE state to be ‘immature’ because it was still over-reliant on individual educators rather than ‘the collective’. It found that, on average, only 7% of the academic staff in an institution are involved in entrepreneurial education. This low proportion of staff involved can impede and slow the cultural change often needed to become an entrepreneurial institution.

The principal obstacle to good entrepreneurship education was clearly the absence of a dedicated funding stream. Funding is essential for the appointment of EE professors, recruit guest lecturers and entrepreneurs, developing courses and establishing entrepreneurship centres. The top EE-performing HEIs were much better at earning external funding.

The Report introduced the now widely-used EE Input-Output Framework to evaluate the entrepreneurial performance of a HEI:

Input Dimensions ('Framework Conditions')

- **Strategy** – how and if the institutions embed entrepreneurship in the overall strategy

- Entrepreneurship goals
- Entrepreneurship policy
- Degree of strategic embeddedness.
- **Institutional infrastructures** — the structures that the institutions establish to support EE
 - Entrepreneurship appointments
 - Entrepreneurship research
 - Cross-discipline structures
 - Approaches.
- **Teaching and learning** — the entrepreneurial learning opportunities offered by the Institutions
 - Courses
 - Degrees
 - Curriculum
 - Teaching methods
 - Extracurricular activities.
- **Outreach** — the involvement of the institutions in the wider community
 - Alumni
 - Links with external stakeholders
 - Community engagement.
- **Development** — how the institutions ensure a sufficient quality in their entrepreneurship education through evaluation and the development of the human resources engaged in the entrepreneurship education
 - Human resources development and management
 - Evaluation of goals and strategies
 - User-driven improvement
- **Resources** — how the institutions ensure the scalability and sustainability of their entrepreneurship education through the dedication of resources
 - Income generation from entrepreneurship activities
 - Types and sources of funding
 - Budget allocation.

Performance (Output) Dimensions

- The entrepreneurial-students-through-learning indicator consists of three variables:
 - share of students taking entrepreneurship courses
 - share of students engaged in extracurricular entrepreneurship activities

- share of students that get acquainted with entrepreneurship during their studies.
- The second indicator, knowledge-transfer, measures the number of different knowledge transfer activities in which the institutions engage:
 - academic spin-offs,
 - licensing agreements
 - patents/IPR
 - product/process design
 - consultancy work
 - other types of knowledge transfer.

The entrepreneurial students through practical experience indicator measures the share of students having obtained actual entrepreneurial experience through activities etc. provided/facilitated by the higher-education institution.

The EU report set out its findings along the Framework dimensions:

- **Strategy**
 - EE mainly occurs through Business Schools
 - The endorsement of Top Management is crucial — ‘bottom-up champions’ can be very effective, but both are vital to sustain EE
 - Most EE is directed at undergraduates; Europe needs to pay more attention to postgraduate EE
 - The presence of EE degrees is good, but a more important indicator is the effort to embed an entrepreneurial mindset in all the HEI students.
- **Infrastructure**
 - The top EE-performing HEIs make much more extensive use of entrepreneurship centres, incubators and technology transfer offices
 - The top EE-performing HEIs use cross-discipline structures to ensure that entrepreneurship does not become a sort of add-on to the institution with activities taking place mainly in the business department.
- **Teaching & Learning**
 - Very few HEIs import good practice EE models
 - Lecturing is still the dominant pedagogic tool, but there are a wide range of new teaching methodologies being explored
 - There is a great need for local case study material.
- **Outreach**
 - There is considerable variation in the way HEIs interacted with their surroundings — alumni, business community and public partners.
- **Development**

- This is a weak area across all HEIs; there are few examples of entrepreneurship educators with personal experience of entrepreneurship.
- **Resources**
 - The absence of dedicated funding is the principal obstacle to EE.

Irish Reports

The ACE (2009) report was the product of the first ‘research’ phase of the HEA/SIF-funded project, Accelerating Campus Entrepreneurship (ACE).

The objectives of the ACE Research project were:

- To examine current provision of entrepreneurship education within the HEIs in Ireland
- To assess the needs of entrepreneurship education from the various stakeholder perspectives
- To assess the effectiveness of support infrastructures within the HEIs in facilitating the exploitation of commercialisation opportunities by postgraduate students
- To explore international models of good practice that could inform practice within the HEIs in Ireland
- To develop an understanding of the culture within the HEIs and its impact on entrepreneurship education.

The ACE survey explored the demand-side perspective by interviewing undergraduates (298 non-business students) and postgraduates (44 students, 34 from non-Business disciplines) in the five ACE partner HEIs, as well as managers from 33 Irish enterprises.

The supply-side perspective was explored by planning a series of interviews with a prescribed Officer mix from all HEIs (President or nominee, Head of non-business Department, Business School academic and Industrial Liaison Manager or Technology Transfer Officer) to elicit information on commitment to entrepreneurship within the institutions, EE approaches and delivery, and their assessment of the organisational structures and cultures in play that promoted or hampered EE progress.

The Presidents of the participating institutions identified the following overarching goals for EE in Irish HEIs:

- To foster entrepreneurial behaviours, skills and mindsets.
- To increase the number of graduate start-ups.
- To seek opportunities for commercially exploiting knowledge present at the Institution.
- To inspire students towards an entrepreneurial career or life.

However, the overall findings of the ACE survey were not encouraging:

- Entrepreneurship education at HE level is under-resourced and lacks an articulated strategic policy;
- Only 25% of HEIs are offering EE to non-Business students despite a reportedly high level of support at Senior Management level for entrepreneurship (42% of Presidents stated that their Institutional Mission Statements incorporated entrepreneurship and 58% highlighted that they had in place Institute-wide policies and plans to assist in the development of entrepreneurial behaviours, skills, mindsets and experiences);
- **Conclusion:** difficulties remain in translating policies into deliverable actions due to barriers operating at different levels including organisational structures, time-tabling and education delivery formats, lack of developmental resources and limited use of multi-disciplinary approaches.

Higher education institutions need to adopt a framework to embed entrepreneurship education across all disciplines:

- Entrepreneurship education is fragmented and delivery is mainly provided by Business Schools;
- There is a lack of communication about, and visibility of, entrepreneurship supports and policies;
- There is insufficient joined-up thinking between institutions, academics and practitioners;
- Despite some initiatives, industry engagement with the third level sector is neither widespread nor intensive;
- Lecturing was still the dominant pedagogical tool;
- Approximately two-thirds of HEIs in Ireland do not import teaching methods with even fewer availing of a formalised national exchange of good practice in entrepreneurship education. A major challenge is to create a network and networking opportunities for academics to develop and enhance good practices based on the experiences of others.

The key barriers to improving entrepreneurship education reported by Presidents, Non-Business Heads of School, TTO/ILOs and Business Academics are shown in Table 3.4.

Table 3.4: Key barriers to improving entrepreneurship education reported by Presidents, Non-Business Heads of School, TTO/ILOs and Business Academics

	Business Academic	Non-Business Head of School	President	TTO/ILO
1	<ul style="list-style-type: none"> Depends on the efforts of a single person (72.7%) 	<ul style="list-style-type: none"> Depends on the efforts of a single person (46.2%) Policy environment and government supports (46.2%) 	<ul style="list-style-type: none"> Depends on the efforts of a single person (50%) Policy environment and government supports (50%) 	<ul style="list-style-type: none"> Limited expertise/competence (50%)
2	<ul style="list-style-type: none"> Lacks strategic integration at an institutional level (45.5%) 	<ul style="list-style-type: none"> Limited expertise/competence (38.5%) Limited time for academics to engage properly (38.5%) 	<ul style="list-style-type: none"> Limited time for academics to engage properly (30%) 	<ul style="list-style-type: none"> Depends on the efforts of a single person (43.8%) Limited time for academics to engage properly (43.8%)
3	<ul style="list-style-type: none"> No academic credibility in entrepreneurship education (36.4%) 	<ul style="list-style-type: none"> Lacks strategic integration at an institutional level (23.1%) 	<ul style="list-style-type: none"> Lacks strategic integration at an institutional level (30%) 	<ul style="list-style-type: none"> No recognition for excellence at institution (31.3%)

The reliance on the efforts of a single person or a few people was universally perceived as a severe weakness. The TTO/ILO Officers discounted the absence of policy as a problem but put the limited EE expertise among the academic staff as the key barrier.

The main organisational and structural barriers to be overcome to facilitate the implementation of entrepreneurship education across disciplines were identified by the Heads of Non-Business Schools and Business School academics as:

- The rigidity of programmatic structures
- Lack of co-ordination of such programmes for academic centres
- Need to change the mindset of academics
- Need to communicate with potential students
- Lack of staff incentives
- The impact of modularisation and semesterisation.

The ACE survey had particularly disappointing findings concerning the encouragement of the exploitation of postgraduate research by HEIs:

- First, the good news was that, for the Postgraduate group, 47% of students reported a strong desire to engage in knowledge transfer and find an application for their work in society generally; a similar proportion indicated they were actively developing ideas for commercialisation.

But, while a high 68% of students from the non-business sub-group of Postgraduates actually saw opportunities for the commercial exploitation of their research, ACE found cause for concern in the fact that only 42% of this sub-group had a strong desire to commercialise their work.

ACE put this down to a failure in communication of entrepreneurship supports. This conclusion was corroborated by other evidence the survey had uncovered:

- 30% of the non-business postgraduate cohort had reported being interested in starting their own business at some point later in their career, whilst 39% were interested in setting up their own business through their college infrastructure.
- ACE observed that, given the reported lack of student enquiries and start-ups within campus incubators, it would appear that lack of communication and visibility of entrepreneurial supports, compounded by a lack of entrepreneurial education and training, was stifling potentially entrepreneurial graduates in Ireland.
- 59% of postgraduates had no knowledge of their Institution's IP policy. It was reported that 79% of respondents either had no knowledge (50%) or were only vaguely familiar (29%) with enterprise development and commercialisation supports within their Institution. 73% of this group had received no training or advice in relation to intellectual property or its implications for their research; a further 9% identified training provision in relation to copyright infringement and plagiarism only.
- Sixty-four percent (64%) of the group of non-business postgraduate students had received no training in relation to developing a business plan or preparing a funding application. Only two students had received any information in relation to the technology transfer process within their Institution. The issue of lack of student awareness must be overcome, possibly through communication to students about the supports available and their potential applicability to their own research via a formal induction programme.
- Only 14% of Institutions offer postgraduate students formal engagement opportunities with Enterprise Ireland.

ACE concluded:

It would appear that, currently, the HEIs in Ireland are not encouraging the exploitation of research with commercial potential, nor are they equipping postgraduates with the skills, knowledge, capabilities and contacts to facilitate entrepreneurial graduates in commercialising their work or engage in the new venture creation process.

— The Accelerating Campus Entrepreneurship (ACE)(2009),
*Entrepreneurship Education in Ireland. Towards Creating the
Entrepreneurial Graduate.*

Significantly perhaps, ACE found few organisational procedures or evaluation mechanisms in place to assess if the entrepreneurial education offerings were meeting the medium to long-term goals of the institutions.

In its conclusions ACE outlines the key success factors for ‘fit-for-purpose’ entrepreneurial education:

- Policy support to ensure a strategic, integrated approach is adopted for the long-term placement of entrepreneurship education on the educational agenda and to facilitate the adequate resourcing to develop the necessary infrastructures and cultural change.
- Senior Management leadership and support in resourcing entrepreneurship education across curricula within Institutions.
- Co-ordination and promotion of activities and collaborative working between academics, researchers, enterprise support staff and technology transfer functions within Institutions. In this way, programmes of enterprise support and commercialisation assistance will be highly visible and be offered, and accredited, as part of a wider programme of entrepreneurship and enterprise education.
- Entrepreneurial Educators, entrepreneurs and business advisers providing real-world simulations and experiential learning to students to ensure that students possess the requisite theoretical and practical business knowledge, entrepreneurial skills and competences to equip them for employment and enterprise creation. This will require new methods, approaches and educational offerings for delivery to students in addition to tailored training for educators.
- New assessment methods and greater flexibility within education design and delivery systems so that extra-curricular enterprise activities can be accredited within formal learning programmes.

One of the key recommendations was effective measurement and continual improvement of offerings to ensure quality, relevance and effectiveness. ACE made the very pertinent point that:

International experience has shown that resource allocation and policy support tend to follow on from the establishment of a robust evidence base. Whilst the success of entrepreneurship education initiatives in the US and throughout Europe are proven, to date such an evidence base has not been established within the Irish context, which would, arguably, be more persuasive to national audiences. It is therefore of fundamental importance that any initiatives include effective and robust evaluation mechanisms to establish success.

In their 2010 paper, ‘The Efficacy of Entrepreneurship Education: Perspectives of Graduate Entrepreneurs on Entrepreneurship and Enterprise Education’, Fenton and Barry develop this important point about the need for robust evaluation:

Whilst entrepreneurship education is one of many campus enterprise activities in which HEIs and IoTs are engaged, there is a need to investigate the effectiveness of entrepreneurship education in HEIs. Potter concedes that evaluating the efficacy of entrepreneurship education is difficult to measure given some graduates may not start enterprises for some time after leaving third level, therefore, graduate behaviour needs to be monitored over time.

Essentially, evaluating the efficacy of entrepreneurship education is difficult to gauge therefore, there is a lacuna of empirically rigorous research to substantiate Irish HEIs' claims that their graduates benefit significantly from entrepreneurship education and set up profitable new businesses.

They agree that there is an urgent need to introduce more sophisticated evaluation techniques with a focus on evaluation rather than simple measurement of inputs and this should be an important education and enterprise policy imperative (Potter, 2008). In evaluating the efficacy of entrepreneurship education in Irish HEs it is vital to track graduate career paths and to tailor entrepreneurship education to the needs of students, SMEs and other key stakeholders e.g. enterprise development agencies. Moreover, sustainable government funding for entrepreneurship education and enterprise initiatives will be contingent on its perceived efficacy

Fenton and Barry's research survey explored:

- What was the graduate entrepreneurs' experience of entrepreneurship education?
- To what degree did entrepreneurship education prepare the graduate entrepreneurs to start their own business?

This research was conducted amongst twenty graduate entrepreneurs of HEIs during the summer of 2010. All were current or past participants of the Enterprise Platform Programme (EPP); fifteen had studied entrepreneurship as part of their undergraduate studies.

The Perceived Benefits and Limitations of Entrepreneurship Education from the perspective of the postgraduates are presented in Table 3.5 which contrasts their assessments of undergraduate and postgraduate entrepreneurship education.

Table 3.5: Summary of Perceived Benefits and Limitations of EE

Benefits of Undergraduate Entrepreneurship Education	Limitations of Undergraduate Entrepreneurship Education
<ul style="list-style-type: none"> • Exposure to Alternative Career Path • Opportunity to participate in Institute and national enterprise awards • Continuous Assessment • Value of Group Work • Links with Real and Graduate Entrepreneurs • Passionate Lecturers • Links with External Agencies • Entrepreneur in Residence: Positive Role Models 	<ul style="list-style-type: none"> • Theoretical Approach • Over-Reliance on Business Plan as teaching tool • Lack of Ideas — sometimes going through the motions • Title of Entrepreneurship can be Off putting • Semesterisation
Benefits of Postgraduate Entrepreneurship Education	Limitations of Postgraduate Entrepreneurship Education
<ul style="list-style-type: none"> • Networking with like-minded peers • Definite business opportunity in place • More practical • The stakes are higher • Greater focus on self-directed learning • Postgraduate learning embedded in campus incubator 	<ul style="list-style-type: none"> • Greater Risk involved as the stakes are higher • Limited engagement with Academic Staff of HEI • Lack of engagement with undergraduate students • Campus incubator located off campus

The research represents a very important critique of the EE offering in Irish HEIs elicited from the participants at the coal face. It was clear from the findings that Irish

graduate entrepreneurs benefited from their exposure to entrepreneurship education at undergraduate level because it pointed them in the direction of an alternative career to the traditional employment path. However some of the approaches to entrepreneurship education were perceived as theoretical or abstract.

The real value of EE was provided through dedicated postgraduate programmes such as the Enterprise Platform Programme (EPP) which enabled graduate entrepreneurs to hone their entrepreneurial skills whilst creating a real business.

Fenton and Barry concluded:

From graduate entrepreneurs' perspectives, good practice in entrepreneurship education at all level in HEIs requires buy in from the students, lecturers, the HEI itself and liaison with external partners, namely: entrepreneurs and enterprise development agencies. Crucial to the success of entrepreneurship education are enthusiastic lecturers with both credibility and prior experience in enterprise development to instil a passion for entrepreneurship amongst students. The research concludes that it is imperative for each Irish HEI to plan, prepare and implement innovation, knowledge and enterprise development strategies as a key part of its institutional mission. Irish HEIs need to be brave and ambitious for their graduates and create the right conditions for entrepreneurship to flourish by embedding entrepreneurship across the spectrum of HE curricula. With the eventual upswing in the global and national economies, Irish graduates should be equipped with the skills and self-efficacy to regard self-employment as a viable and attractive career option.

Cooney (2008) Report and Update

Cooney supplied the following abstract for the original 2008 report:

Entrepreneurship education is now a key part of the tertiary-level education landscape in many countries around the globe. Institutions are creating the type of learning environments that are conducive to encouraging and supporting student enterprise and graduate entrepreneurship. Going beyond notions of employability, entrepreneurship capacities enable graduates to create their own futures, exploit the opportunities that emerge in their complex and unpredictable worlds, and better contribute to economic development and well-being. This report demonstrates that Ireland is no exception. The evidence presented illustrates that there is no shortage of entrepreneurial activity across the island. Institutions are spreading provision outside of the business school and across the campus. Government support is stimulating interest and growth amongst students in science, engineering, technology and the arts.

— Cooney, Thomas M and Trudie M. Murray (2008), *Entrepreneurship education in the third-level sector in Ireland*

The report first discussed fundamental aspects of entrepreneurship education such as the distinction between education and training, citing Jamieson's categorisation:

- Education about enterprise (aspiring entrepreneurs),
- Education for enterprise (aspiring entrepreneurs),
- Training in enterprise (established entrepreneurs).

Cooney discussed appropriate EE pedagogics, citing the Gibb (1996) distinction between conventional and enterprising approaches. The report delved further into the literature, paying particular attention to studies revealing the preferences of course participants rather than studies from the perspective of the educators. It was found that students generally favoured project-based courses for the development of skills related to knowledge, comprehension, and evaluation. Case method teaching was considered to be more effective methodology in developing skills of analysis and synthesis. Educators' fixation with the Business Plan was again singled out for castigation.

The report noted the lack of entrepreneurial experience among teaching staff and the severe need for the hands-on knowledge that a pracademic can offer (a 'pracademic' was explained as an American term used for practitioners who are also academics).

Challenges currently facing entrepreneurship education in Ireland were outlined. The culture of entrepreneurship in Ireland remains hindered by five broad factors:

- Traditional perceptions and attitudes
- Presence of 'fear of failure' culture
- A parochial attitude to risk and business ownership
- Relatively low levels of entrepreneurs among high earners
- Lower levels of female entrepreneurs.

The GEM reports on Ireland had been indicating an improving attitude to entrepreneurship but GEM (2005) had sketched out a radical entrepreneurship education manifesto which needed urgent attention.

The Cooney (2008) report proceeded to the main business of mapping EE in Ireland's third-level sector, identifying the entrepreneurship courses and modules offered by universities and institutes of technology throughout the island of Ireland.

It noted the rise in demand for entrepreneurship learning initiatives in recent years, not only in business faculties but also in faculties such as engineering, science, and arts.

There was a positive response by the HEIs who designed and delivered specific modules in entrepreneurship and related subjects such as new venture creation and enterprise development. The institutions incorporated practical elements into their modules, offering students the opportunity to create business plans and work in conjunction with prominent entrepreneurs, both national and international.

Students were growing in confidence at the prospect of setting up their own business as they could now had the opportunity to test their own business idea in a supportive, educational environment. This led to the development of business incubation centres in almost all the HE institutions. These incubation centres were also made available to graduates who had been encouraged to start their own business following the completion of an entrepreneurship module while studying as an undergraduate.

The original 2008 survey carried out by the INTRE members found that there were approximately 400 modules/courses relating to entrepreneurship provided across the 26 educational institutions, supported by 22 Centres for Enterprise and/or Innovation.

The comprehensive findings (updated with the 2011 INTRE input) giving each institution's EE profile and course offering will be provided in the final version of the report. Table 3.6 summarises the results.

Table 3.6: Full Entrepreneurship Education (EE) courses and courses with EE modules offered by the higher education institutions surveyed

	Full EE Courses	EE Modules
(1) Athlone Institute of Technology		13
(2) Cork Institute of Technology		7
(3) Dublin City University	1	8
(4) Dublin Institute of Technology	1	24
(5) Dundalk Institute of Technology	5	15
(6) GMIT		8
(7) Griffith College Dublin		11
(8) IADT		7
(9) ITB Blanchardstown	7	18
(10) Institute of Technology Carlow		33
(11) Institute of Technology Sligo	1	3
(12) ITT Dublin (Tallaght)	1	7
(13) Institute of Technology Tralee	13	15
(14) Letterkenny IT		11
(15) Limerick Institute of Technology		11
(16) National College of Ireland	1	12
(17) NUI Cork	3	8
(18) NUI Dublin (UCD)	4	6
(19) NUIG	2	12
(20) NUIM Maynooth		8
(21) Queens University Belfast		34
(22) Tipperary Institute		7
(23) Trinity College Dublin	1	4
(24) University of Limerick	1	20
(25) Ulster University		92
(26) Waterford IT	3	22
Total	44	416

The total quantity of EE modules has increased to 416, but the significant figure is the upward trend in full awards to 44 EE courses, testimony to the increasing recognition of EE as a substantial subject in higher education.

This heartening finding may temper the original conclusion in the Cooney 2008 report:

Much has been achieved with these programmes but most institutions remain a long way from the cutting-edge of entrepreneurship education in global terms.

The question being posed by many people remains — are these educational institutions just paying lip-service to entrepreneurship education or is there a real desire to make it part of their core identity?

Entrepreneurship education courses offered in the Private HE Colleges

Our own research has identified the entrepreneurship education courses and modules offered by the principal Private HE Colleges:

Table 3.7: EE courses offered in the Private Higher Education Colleges

College	Course	Title of module	Under-/ Post-graduate	Core/ Elective	Business/ Non-business
American College Dublin	BA (Hons) in Accounting and Finance	Entrepreneurship	UG	C	B
	BA (Hons) in International Business	Entrepreneurship	UG	C	B
	BA in Business and Information Technology	Entrepreneurship	UG	C	B/NB
	BA in International Business	Entrepreneurship	UG	C	B
	MBS in International Business	Entrepreneurship	UG	C	B
	MBS in International Business	International Entrepreneurship	PG	E	B
	BA in Event Management	Entrepreneurship	UG	C	B
IBAT College Swords	Bachelor of Business Course	Enterprise and innovation	UG	C	B
	Bachelor of Business Honours Course	Enterprise and innovation, Entrepreneurship	UG	C	B
	Bachelor of Business Honours – Information Systems Course	Entrepreneurship	UG	C	B/NB
	Bachelor of Business Honours — Marketing Course	Enterprise and innovation, Entrepreneurship	UG	C	B
HSI Limerick	Higher Certificate in Business Studies	Enterprise Formation	UG	C	B

College	Course	Title of module	Under-/ Post-graduate	Core/ Elective	Business/ Non-business
Grafton College	Master of Business Administration	Entrepreneurship, Entrepreneurship and Globalisation	PG	C	B
	BA (Hons) in Business Management	Entrepreneurship	UG	E	B
Dorset College	Career Transition, Entrepreneurial & Job Seeking Skills	Entrepreneurial Development & Project Management	UG	C	B
Dublin Business School (DBS)	Bachelor of Business	Entrepreneurship (C), European Enterprise Development (E)	UG	C/E	B
Independent College Dublin	BA (Hons) Business Studies	Knowledge, Entrepreneurship and New Product Development (C); Entrepreneurship (E)	UG	C/E	B
Open University	BA (Hons) Business Studies	Investigating Entrepreneurial Opportunities	UG	E	B
	BA (Hons) Leadership and Management	Investigating Entrepreneurial Opportunities	UG	E	B
	MBA	Entrepreneurial management	PG	E	B

NCGE/YES SurveyMonkey Results

The 2010 NCGE/YES survey was completed by the INTRE members in 22 Irish higher education institutions (12 Institutes of Technology, 5 universities, National College of Ireland, Tipperary Institute, Griffith College and Queens University Belfast).

Highlights:

- Responses state that entrepreneurship is in **Mission Statement** but:
 - Majority have no explicit entrepreneurship policy
 - Majority have no Advisory Group
 - 81% have VP responsible for entrepreneurship,
 - Only 4 institutions have Professors
 - Majority have no facilities or start-up funds for students
 - Majority have no dedicated webpage
 - Majority have no Visiting Professors or Entrepreneurs-in-Residence.
- What are **HEIs providing for students**:
 - Courses at undergraduate and postgraduate levels (particularly Start-Up)
 - Business plan competitions
 - Entrepreneur events
 - Ideas competitions

- Placements/internships
- Careers Services events
- Networking events and Student Societies.
- **Staff support is good** for:
 - Training
 - CPD
 - IP commercialisation
 - Incubation space.
- **Staff support is poor** for:
 - Awards for excellence
 - Sabbaticals
 - Coaching non-staff (e.g. guest entrepreneurs)
 - Incentives to attract non-entrepreneurs
- Respondents had **little knowledge** about:
 - Estimates of funding
 - Sources of funding
 - Number of student start-ups
 - Information not tracked/gathered by the institutions.
- Respondents are **very confident** about future activities being sustained.

Overall Impression of Responses:

- High level statements are common
- There is lots of activity at classroom level
- There are plenty of general activities for students at a basic level
- There is a lack of committed leadership at upper management level
- Approach remains traditional and lacks real engagement.

Detailed Analysis

Total student enrolments in these 22 HEIs for the academic year 2009–2010 was indicated as 160,369 students.

All HEIs confirmed that they provided supports for student enterprise and graduate entrepreneurship in 2009–2010.

All provided some credit-bearing courses/modules in enterprise and entrepreneurship that lead toward academic qualifications.

Eleven HEIs provided award-bearing courses/modules in enterprise and entrepreneurship that did not contribute toward full academic qualifications (e.g. CPD, ILM, SFEDI, internal awards).

All provided some extra-curricula support for enterprise and entrepreneurship that was not part of any academic qualification.

Table 3.8 shows the flagship indicator, the Irish Student Engagement Rate (SER), calculated to be 12.2% — obtained by dividing the number who engaged in any entrepreneurship education provision (curricular or extra-curricular, credited or non-credited) by the total enrolment figure.

This rate compares with the 2010 UK SER of 16% (up from 7% in 2006 and 11% in 2007). NCGE observed that a ‘comparable’ European figure in the 2008 NIRAS survey was 24%.

Table 3.8: Irish Student Engagement Rate (SER)

	Student Numbers
Full Awards	1,084
Full Modules	6,020
Embedded Modules	5,488
Extra-Curricula Activities	6,540
Total Engagement Number	19,132
Total Enrolment Number	160,369
Student Engagement Rate	12.2%

Tables 3.9–3.11 show the breakdown in the numbers for the three course-types by undergraduate versus postgraduate, full-time versus part-time, and Business & Management versus Other Discipline.

Table 3.9: Analysis of undergraduate and postgraduate courses

	Undergraduate	Postgraduate
Full Awards	30	8
Credit-bearing Module	139	57
Embedded Module	124	58

Table 3.10: Analysis of full and part-time courses

	Full-time	Part-time
Full Awards	24	9
Credit-bearing Module	130	64
Embedded Module	133	67

Table 3.11: Analysis of courses by main subject area

	Business and management	All other disciplines
Full Awards	11	8
Credit-bearing Module	126	62
Embedded Module	107	53

Table 3.12 gives the numbers of students engaged in Extracurricular Activities.

Table 3.12: Numbers of students engaged in Extracurricular Activities

Topic	Number of students
Ideas and Planning	11,420
Venture Creation	2,293
Enterprise Skills Development	6,931
Networking and Targeted Workshops	1,531

Institutional Policy

Table 3.13 gives the responses pertaining to Institutional Policy on entrepreneurship education.

Only 9 HEIs have an explicit entrepreneurship policy but 15 state that entrepreneurship is embedded in the mission statement.

While 3 HEIs have a VP responsible for entrepreneurship 7 HEIs used an Advisory Group to steer entrepreneurship education policy.

Nine HEIs formulated Faculty-level entrepreneurship action plans.

Eleven HEIs reported dedicated institutional funding for enterprise/ entrepreneurship.

Only 4 institutions have non-research enterprise Professorships

Ten HEIs provide embedded EE across the majority of disciplines and 10 institutions state there is an opportunity for all students to engage in entrepreneurship learning.

Tracking of individuals after graduation is performed by 11 HEIs.

Fourteen HEIs support enterprise in local schools and fifteen institutions support enterprise in their local community.

Table 3.13: Institutional Policy

Institutional policy	Numbers
An explicit institutional entrepreneurship policy	9
Enterprise/entrepreneurship embedded in the mission statement	15
A Vice-President or Registrar responsible for enterprise/entrepreneurship	3
An entrepreneurship advisory board/council/steering group	7
Faculty-level entrepreneurship action plans	9
Dedicated institutional funding for enterprise/entrepreneurship	11
Non-research professors of enterprise/entrepreneurship	4
A policy on the management of student IP	13
Enterprise/entrepreneurship embedded across the majority of disciplines	10
Opportunities for all students to engage in entrepreneurship learning	10
Tracking of individuals after graduation	11
Support for enterprise in local schools	14
Support for enterprise in local communities	15

Institutional Infrastructure

Table 3.14 gives the number of HEIs with specified Institutional Infrastructure.

Table 3.14: Institutional Infrastructure

Facilities	Number
Student incubator facilities	9
Student hot-desk/drop-in facilities	11
Start-up funds for students/graduates	6
Student-led club/society	13
Student enterprise interns/fellowships	9
High-level enterprise champions	9
Dedicated centre for student enterprise	5
Central office for academic enterprise/technology	15
Specialist centre for female, ethnic or social enterprise	2
Dedicated web-page for access to enterprise support	9
Adjunct/visiting positions for entrepreneurs	6
Entrepreneurs-in-residence	7
Campus clinics/surgeries to support enterprise	13

Staffing for Entrepreneurship

Table 3.15 shows the number of HEIs offering the specified supports for Faculty Staff in entrepreneurship education.

Table 3.15: Support for Faculty Staff in enterprise

Support	Number
Staff training in enterprise	11
Staff funds for CPD	15
Staff curricula development funds	10
Awards for excellence or good practice	5
Development sabbaticals for staff	6
Staff support for commercialisation of IP	13
Coaching/training for non-staff entrepreneurship educators	5
Incentives to attract/encourage educators to entrepreneurship	6
Provision of incubation space for staff/graduates	16

Table 3.16 shows the number of HEIs that appoint the specified EE staff.

Table 3.16: EE Staff Appointments

Appointment	Number of respondents
Professors of Enterprise/Entrepreneurship	6
Visiting positions for Professor of Enterprise/Entrepreneurship	5
Visiting positions for entrepreneurs	7
Academic staff to teach enterprise/entrepreneurship	18
Staff to support extra-curricular student enterprise activities	11

Table 3.17 gives the number of EE Staff Appointments.

Table 3.17: EE Staff Appointments

Appointment	Number of respondents
Professors of Enterprise/Entrepreneurship	12
Visiting positions for Professor of Enterprise/Entrepreneurship	13
Visiting positions for entrepreneurs	45
Academic staff to teach enterprise/entrepreneurship	60
Staff to support extra-curricular student enterprise activities	64

Student and Graduate Start-ups

Table 3.18 gives the number of Start-up Launches for the years 2008–2009 and 2009–2010.

Table 3.18: Number of Start-up Launches

Start-ups by	2008–2009	2009–2010
Students	38	41
Graduates	40	40

3.7 Entrepreneurship in Teacher Education

Entrepreneurship in Teacher Education for Primary Level

The attitude adopted in Primary Teacher Education Colleges to entrepreneurship education mirrors the situation we have described regarding the Primary Curriculum. Countries such as Ireland opt not to have specific entrepreneurship education modules in the student teacher curriculum. Instead they meet the EE aspirations of the EU by educating primary teachers broadly so that they can instil in their pupils the cross-curricular ‘soft skills’ that are a prerequisite for the development of entrepreneurial attributes.

The attitude is frequently explained by stating that if Enterprise is delivered as a stand-alone subject or a separate activity it will be more time-consuming and less effective than if it is integrated across the curriculum. The preferred approach has been to encourage teachers to integrate Enterprise into all their lesson plans and approaches. Such a culture of enterprise cannot be embedded overnight and even the most successful ‘enterprising’ schools typically begin with just one or two subject areas. This tends to involve teachers who are most interested in Enterprise Education. More Enterprise is then introduced into these subject areas, based on what has worked well. This organic approach takes time but leads to a culture of enterprise, rather than just a ‘one-off’ initiative.

Each College of Education operates its own teacher education curriculum, subject to the statutory Teaching Council’s Guidelines. In December 2010 the Teaching Council issued the second draft of its guidelines for the ‘continuum’ from initial education through induction to continuing professional development. The TC Guidelines prescribe three blocks in the teacher education curriculum:

- Foundation Studies — typically includes the history of education, psychology of education, sociology of education, and philosophy of education
- Professional Studies
- The Practicum (training in the classroom).

In Foundation Studies, the aim is to:

- provide research-informed insights into student teachers’ understanding of the practices of teaching, learning and assessment
- illuminate key dimensions of the professional context in which the thinking and actions of teachers are carried out
- provide the basis of a strong professional ethic in teaching
- provide the basis for reflective practice.

The Professional Studies block incorporates studies in the pedagogy of the subjects of the relevant curriculum or syllabus (in the case of the primary sector this means the entire range of subjects which is included in the Primary School Curriculum). This block enables student teachers to deepen their subject content knowledge, and, crucially, to hone their communicative skills into an assured pedagogical

capability through self-critical learning, teamwork and enquiry-based initiatives with colleagues.

The practicum relates to the school-based component of programmes of initial teacher education whereby student teachers are afforded opportunities to teach in designated schools and to gain an overall school experience which includes opportunities for systematic observation, for collaborative work with school staff, and for structured participation in school life.

While primary teachers are not offered specific training modules on business skills, College Principals are confident that their student teachers are being invested with the competences to nurture in young people those personal qualities that form the basis of entrepreneurship such as independence, responsibility, spirit of initiative, creativity and capacity for confronting risks.

Within the context of the overarching policy on the teacher education continuum, a focus is currently being placed on initial teacher education. There is a recognition that the role of teachers has changed and while they continue to impart knowledge, they also need to adopt the broadest range of methodologies which will ensure the active engagement of all learners. Moreover, it is recognised that teachers have responsibilities as members of staff where collaboration and teamwork between teachers, as well as an approach to teaching that goes beyond subject boundaries, is now accepted as the norm.

Entrepreneurship in Teacher Education for Second Level

In 2006 Birdthistle's report observed that, while great progress had been made in getting an entrepreneurship culture into second level schools by a variety of means, there remained issues to be addressed:

- Entrepreneurship training is not embedded in professional teacher training qualifications
- There is a notable lack of widely available in-service teacher training in suitable methods, appropriate to the teaching of entrepreneurship, as the approach is quite different to the usual more conventional approach.

That same year the Small Business Forum recommended that:

“As a part of their education at teacher training colleges, secondary teachers should be equipped with the skills and knowledge to deliver commercial thinking and entrepreneurship courses.”

As has been described in chapter 2, the standard pathway to a qualification in second level teaching is to obtain a bachelor's degree in the specialist subject(s) and then complete a one-year Postgraduate Diploma in Education (formerly known as the Higher Diploma in Education).

The Postgraduate Diploma in Education (PGDE) entails the full-time study of Education as a subject and provides the calibre of pedagogical training stipulated by Teaching Council regulations for entry to the post primary teaching profession.

The course requires a serious commitment, both academic and professional, that is challenging to students and no other course of study may be pursued concurrently.

The structure of the PGDE course differs somewhat between College providers but all variants comprise an intensive induction programme over the first few weeks, followed by a combination of school experience and college-based learning.

School Experience involves a minimum of 100 hours of supervised teaching practice in a subject or subjects taken to degree level plus a brief period of full-time observation in schools. This provides the students with an experiential base for their training. To obtain the PGDE candidates must achieve a pass grade in this teaching practice element of the course.

The College-Based Learning part of the course comprises:

- Foundation Courses addressing particular aspects of Education such as Education Policy & the School, Classroom Teaching, ICT, and Special Needs Education. These include study of the philosophical, sociological, psychological and historical dimensions of Education in contemporary Ireland and beyond.
- Subject Teaching Courses offered in areas such as Accounting, Business Studies, Classical Studies, English, Gaeilge, Geography, History, Mathematics, Economics, ICT, Modern Languages (Spanish, German, Italian, French), Music, Religious Education, Science, Civic, Social & Political Education, TEFL.

Students pick from the range of elective modules in the foundation and professional studies areas. Some Colleges such as NUI Galway offer modules in LCVP studies and Enterprise.

Following this initial education for student teachers an induction programme is now available for all newly qualified secondary teachers at their local Education Centre. Benefits of induction include an increased sense of professional confidence.

In summary, as regards EE training for second level teachers, there is no mandatory entrepreneurship education module in the PGDE course. Second level teachers whose specialist subject is Business Studies or Economics will likely have received some level of exposure to entrepreneurship education in their bachelor degree course. Some will have obtained some entrepreneurship education insights through the relevant PGDE elective modules. And, for all student teachers, the PGDE Foundation Courses acquaint them with the pedagogical skills to deliver a creative, flexible and reflective teaching style that suits EE.

But it would have to be conceded that nothing substantial has changed since the Birdthistle report in terms of embedding specific EE modules in formal second level teacher education. The calls from the policy-advisers and policy-makers [ESG (2004), Small Business Forum (2006) and Forfás (2007)] to embed entrepreneurship education in professional teacher education remain unfulfilled.

This leaves a considerable onus on the in-career professional development programmes to fortify teachers with the specific entrepreneurship education

confidence and skills necessary to motivate their students to become enterprising citizens, employees and employers.

Teacher Education to teach entrepreneurship in Higher Education (HE)

Before discussing the particular issue of educating EE teachers for HE level, it should be noted that there are no statutory regulatory bodies equivalent to the Teaching Council and DES Inspectorate to oversee teaching standards at HE level — regulation is the responsibility of the individual HEI. The subjects taught will be validated by HETAC or FETAC but this is an outcomes-based evaluation and a separate matter from vetting the quality of the teaching.

Cooney 2008 noted that, until recently, some universities on the island of Ireland have been accused of having poor teaching methods, dominated by lectures in large classes, with little interaction among students and professors, dry academic content, and few applications to engage the students. University teachers do not have routine reviews.

The Eurydice (2010) *Organisation of Education System in Ireland 2009/2010* report noted how teaching and learning have always formed the central core of the work of a tertiary education institution in Ireland. However, in the context of mass higher education and the large number of students on some courses, there tended to be a reliance on the lecture method, supplemented by tutorials and workshops where the larger group may be broken up into smaller units. The average student-teacher ratio in universities in Ireland is 22:1 and in institutes of technology is 15:1. Arts, humanities, social science and general science courses tend to have large student numbers and this influences the teaching methods employed.

Eurydice states that, to a large degree, HE teachers are free to choose their own teaching methods and styles. While the policies of institutions indicate preferred styles of teaching and reward teaching prowess, they do not prescribe methodologies. Most departments will have evolved preferred policies on teaching styles and seek to encourage and promote variety of approach. Teaching staff are expected to implement such policies, but there is no specific obligation on them to do so.

However, both Eurydice and Cooney report that quality of teaching in Irish HEIs has improved considerably in recent years, spurred on by the Bologna process and the establishment of quality assurance bodies such as the Irish Universities Quality Board (IUQB).

Eurydice observes that a new emphasis on teaching quality is very much in evidence in Irish institutions, and more specific attention is being given to promoting improved quality in teaching with a view to improved learning on the part of students. In the first instance, stress is being laid on increasing the repertoire of teaching styles. Lectures continue to be a staple format, but are increasingly supplemented by a range of other teaching approaches. Seminars, tutorials, case studies, practicals, workshops, demonstrations, role-play, and action research projects feature more regularly in the teacher-student interaction.

All institutions now have quality promotion officers who organise a great range of staff development courses. Many of these are in the area of methodology, including the integration of ICT into teaching-learning contexts. Each university department, on a cyclic basis, is subject to quality assurance exercises including peer review evaluation. The quality and range of teaching methodology forms a central role in this process to which students contribute.

Prowess in teaching now forms a more important factor than hitherto in staff promotion. Incentives towards excellence have also been introduced through a competitive awards process for distinguished teaching by several tertiary institutions. Some institutions have devised teaching-learning charters which set out objectives and outcome guarantees for both staff and students.

Eurydice notes a few areas where further improvement is needed:

- While students utilise ICT in a variety of ways to support their learning, the integration of ICT into the actual teaching-learning interaction seems to be best developed in science, architecture, engineering and medical courses.
- Teaching continues to be discipline-based or module-based within the particular department with direct responsibility for the course. Some experimentation is occurring with multi-disciplinary teaching, but this tends to be mostly at post-graduate level.

Cooney (2008), too, reports that Irish HE institutions are now being seen to create new cultures around teaching to facilitate more student centred approaches, more applied teaching, more inter-disciplinary teaching, greater use of new technology, and a greater respect for vocational subjects. These developments are critical for the development of entrepreneurship education.

Educating Teachers for entrepreneurship education in HEIs

The ACE Report 2009 states that the embrace of the new teaching culture in HEIs is a prerequisite for the success of entrepreneurship education. It notes the increasing consensus that effective entrepreneurship education should be interactive and real-world based, not book-based. The entrepreneurial learning style means active participation as opposed to 'chalk and talk' instruction. ACE cites the classical summation by Gibb (1996) of the difference between the passive '*Conventional Approach*' and the active '*Enterprising Approach*.'

The Finnish ENTLEARN project, which studied the preferred and most efficient ways entrepreneurs learn, concluded that the teaching of entrepreneurship is far from straight-forward; in particular the 'Opportunity Discovery' component of Entrepreneurship is quite elusive.

In entrepreneurship training a good facilitator or mentor is not only a pedagogic expert but also someone possessing a deep knowledge and understanding of the content — entrepreneurship — as the content and process are to be taken forward and in tandem. This brings great challenges to educators in the field of entrepreneurship as only a few educators are experienced enough in entrepreneurship and pedagogy at the same time.

Because of this elusive aspect of teaching EE, many commentators recommend that educators should have practical business experience. GEM (2004) *Entrepreneurship on the Island of Ireland* quoted the recommendation of one key informant:

“Teachers need to be given some form of business experience. This may not necessarily come from getting teachers to work in a business but perhaps through more exposure to past pupils who have gone through various career routes.”

— The Global Entrepreneurship Monitor (2004), *Entrepreneurship on the Island of Ireland*.

The 2008 EU Report *Survey of Entrepreneurship in Higher Education in Europe* Main Report found that the quality of entrepreneurship education very much depended on whether the academic staff teaching entrepreneurship have had their own entrepreneurial experience. The Report noted that, in some HEIs, it was a requirement that academic staff should have personal entrepreneurship experience to fully appreciate and fully communicate the benefits and obstacles of entrepreneurial activities. On average, less than one third of all academic staff teaching entrepreneurship had such a personal, practical experience with entrepreneurship activities outside academia. The Report concluded that most entrepreneurship education in higher education institutions is still theory-based and only in few cases enriched with personal, practical experience.

Many HEIs compensate by employing guest lecturers and the use of practitioners in entrepreneurship education is widespread. The EU Report described one interesting example of this approach at the Centre for Entrepreneurial Learning (CfEL), Cambridge University in the UK. The Centre has nine full time staff that all are focused on planning and implementing entrepreneurship courses, while entrepreneurs and practitioners generally deliver the entrepreneurship courses. This model is chosen because the people at the Centre believe that entrepreneurs and practitioners are best equipped to teach and at the same time they act as role models and inspire students to take a positive attitude to entrepreneurship.

However relying on practitioners as guest lecturers is not necessarily a magic bullet. Some EE commentators such as Hayward fear that it can develop a kind of knowledge linked to anecdotes or war stories that are very far from academic conceptions. As ENTLEARN observed the perfect scenario is having educators experienced enough in entrepreneurship and pedagogy at the same time.

The 2008 EU Report describes the alternative approach of providing high quality CPD for trained HE educators. It cites as an example the International Entrepreneurship Educators Programme (IEEP) established by Enterprise Educators UK (EE-UK) and the National Council for Graduate Entrepreneurship (NCGE), and supported by the UK Higher Education Academy and the Ewing Marion Kauffman Foundation. The IEEP supplies high-quality professional development for HE educators. The NCGE and EE-UK have recently introduced a European Entrepreneurship Educators Programme (3EP) which will deliver 3 European Annual Summer Academies using an inclusive delivery model that both develops pedagogy and supports institutional change (‘the entrepreneurial university’).

In Ireland the ACE consortium of five HEIs has introduced a ‘Train the Trainers’ programme to provide CPD for its EE teaching staff. The programme is delivered through two workshops focusing on:

- An overview of the importance of entrepreneurship education and international trends
- An overview of the pedagogical tools for entrepreneurship education
- Generating an awareness of the modules designed by ACE for entrepreneurship education
- Developing a practical toolkit to deliver entrepreneurship education.

CPD initiatives such as that of ACE are clearly the way forward in educating Irish HE educators in the content and pedagogics of EE. The Hunt Report recommended that higher education institutions ensure that all teaching staff are both qualified and competent in teaching and learning, and should support ongoing development and improvement of their skills.

The challenge for Ireland is to build up a sustainable cohort of professors and fourth-level academics who are proficient in teaching EE in HEIs. The 2008 EU Report, *Entrepreneurship in higher education, especially in non-business studies*, observed that there is a shortage of human resources and funding for entrepreneurship education across Europe, making it impossible to meet the EE demand fully.

There are currently too few professors of entrepreneurship. There is a need to graduate enough PhD students in entrepreneurship who can become teachers. The EU Report adduced factors that inhibit the supply of EE teachers at HE level:

- There is very little in terms of incentives to motivate and reward teachers for getting involved in entrepreneurial teaching and activities with students
- It is currently difficult to build a career in entrepreneurship, as research remains the main criterion for promotion.

3.8 Existing Enterprise Education Policy and Strategy

3.8.1 High level political support for entrepreneurship education on a national, regional and local level

There have been several recent key policy documents bearing on enterprise policy, many of them of an advisory nature but all expressing the need for strong government support for entrepreneurship and entrepreneurship education.

Towards 2016

The ten-year framework 2006–2015 Social Partnership Agreement, *Towards 2016*, stated that Ireland’s overall Innovation Policy focus was to increase and improve the levels of activity in research and development, in the public and private sectors, and to facilitate greater levels of creativity and innovation, through greater investment in human resources.

It noted that the key development in the last decade had been the increased investment in basic research. However, there was a need for a more strategic direction in innovation policy and it outlined seven principles underlying Enterprise, Innovation and Productivity:

1. Strengthening the competitive advantages of our economic and industrial base and promoting a more entrepreneurial culture;
2. Improving investment in human capital and adapting the education and training systems, including emphasis on upskilling those already at work and those who wish to return to work, including older people, and those whose need for learning is greatest, and focusing on increasing education participation and completion at all levels and in all sectors;
3. Building on successful adoption and operation of advanced technologies to achieve greater innovation in products, processes and organisation both to improve productivity and improve service delivery;
4. Creating a more competitive business environment and encouraging private enterprise initiative through better regulation, greater competition and stronger consumer protection and advocacy;
5. Developing and broadening innovation and productivity to include an organisational culture which will enable the delivery of high quality services in the private, public, community and voluntary sectors;
6. Adapting more responsively to changes needed to maintain high levels of employment;
7. Maintaining a strong focus on attracting inward investment while supporting the development of the services sector, with particular emphasis on the indigenous sector, as a driver of exports.

Irish National Reform Programme reports

In its response to the EU Integrated Guidelines for Growth and Jobs programme the Irish Government has published a series of Irish National Reform Programme reports. Among the wide range of policy issues addressed and commented on in these reports are developments on enterprise policy and on the entrepreneurship front.

The 2008 report noted that Enterprise Ireland (EI) had established an Entrepreneurship and Regional Development Business Unit which (in partnership with other relevant agencies such as City and County Enterprise Boards) has responsibility for driving improvements in the conditions for entrepreneurship throughout Ireland. A City and County Enterprise Boards (CEB) Coordination Unit had also been established within Enterprise Ireland to facilitate greater cohesion of strategic and operational activities in the enterprise development support offered to companies.

Towards 2016 commented on the Report of the Small Business Forum (which we discuss in detail in section 3.8.2), stating that the Minister for Enterprise, Trade and

Employment had indicated that he generally accepted the Forum's recommendations in relation to his area of responsibility and that he would be pursuing the matter with his colleagues in Government with a view to early implementation. The Minister has asked members of the Forum to stay in place to act as a body in respect of implementation of the Report.

The 2016 report made some specific comments in respect of Enterprise education:

- In the context of second level curricular reform the National Council for Curriculum and Assessment had been requested to design, as an exemplar, a short course in enterprise education, building on existing models. It stated that the Departments of Enterprise, Trade and Employment and Education and Science were examining how best to progress these recommendations. (This has since moved forward and is now out for consultation).
- State funding for the promotion of enterprise within the education system has been primarily channelled through the relevant state agencies. The City/County Enterprise Boards (CEBs) support teachers in the delivery of enterprise programmes designed to give practical experience of setting up and running a business. The CEB Student Enterprise Awards scheme involves some 10,000 second-level students annually.
- Enterprise Ireland has been involved with the Universities and Institutes of Technology in fostering entrepreneurship among students and in turning research activity into commercial enterprises. It is also involved in other enterprise education initiatives such as the '*Campus Companies Initiative*' and the '*Innovation Partnerships Scheme*'. Enterprise Ireland has also been working with the Institutes of Technology to develop on-campus incubation centres to facilitate the development of new high growth companies. Institutes will receive over €380 million for the establishment of business incubation centres. (Much of this has been implemented).

National Development Plan

National Development Plan (NDP 2007–2013), *Transforming Ireland — A Better Quality of Life for All*, allocated substantial investment for economic infrastructure, enterprise, science and innovation, thus enhancing the framework for entrepreneurial activity.

In its Indigenous Enterprise Sub-Programme it stated that stimulating the establishment, development and scaling of new High Potential Start-Ups (HPSUs) across a range of high value sectors and markets would be a major priority for EI to ensure the continued development of the Irish industrial base. EI's effort in this regard would be complemented by the supports provided by the County and City Enterprise Boards (CEBs).

Building Ireland's Smart Economy

In *Building Ireland's Smart Economy* (2008), the former Government put forward several proposals regarding entrepreneurship:

- It planned to foster an entrepreneurial culture at second, third and fourth levels
- It planned to raise the profile of the County Enterprise Board student enterprise awards and encourage second level students to participate in enterprise related programmes.
- Young scientist winners would be linked with a third-level institution and/or a firm to enable them to bring their idea to development and the top 3 finalists would be given laboratory/research space, as appropriate, in universities for the summer.
- The HEA would progress the provision of entrepreneurship and management training skills on scientific and engineering doctoral programmes in universities
- It set a goal of making Ireland an attractive incubation environment for entrepreneurs which would attract the best entrepreneurs from Europe and further afield, and planned to develop a marketing campaign of Ireland as '*The Innovation Island*' and the destination of choice for European and overseas entrepreneurs.

Government for National Recovery 2011–2016

The 'Programme for Government' of the newly elected coalition, *Government for National Recovery 2011–2016*, confirms that its ambition is to build the knowledge society. It sees Education as being at the heart of a more cohesive, more equal and more successful society, and as the engine of sustainable economic growth. Ireland has experienced a decline in educational outcomes in recent years and will draw from top performing education models like Finland to reverse this trend.

The Government will promote the development of a vibrant and effective social enterprise sector. It will continue support for social innovation projects for young people through education, community and voluntary structures.

It will promote and support investment in technology research, development and commercialisation beyond basic research supported by Science Foundation Ireland, as well as removing barriers to innovation and accelerating exploitation of new technologies. It will establish a network of Technology Research Centres focused on applied technological research in specific areas, to be linked to appropriate higher education institutions. The centres will aim to accelerate exploitation of new technologies by providing infrastructure that bridges the gap between research and technology commercialisation.

3.8.2 Existing entrepreneurship education policies, strategies, guidelines and their implementation in practice on a national, regional and local level

There is no written Entrepreneurship Education Strategy or Policy for Ireland, there is not even an Entrepreneurship Strategy/Policy.

Commentators invariably identify this lack of an articulated, coherent entrepreneurship and entrepreneurship education policy:

“There is no national framework nor an articulated strategic policy for entrepreneurship education institutionally that would support education and practice among staff and students at all levels and across all disciplines.”
[ACE (2009)]

“The GEM Ireland Reports (2000–2007) and The Small Business Forum Report (2006) each captured the need for a more focused and strategic approach to encouraging and promoting entrepreneurship in Ireland. A combination of government involvement and commitment through initiatives and policies, and a strong dedication to entrepreneurship education will all contribute to the growth of a strong entrepreneurial culture in Ireland.”
[Cooney (2008)]

“There is, however, no articulated vision for entrepreneurship to engender a shared sense of mission across the various stakeholders and no champion for entrepreneurship within the system at Ministerial or Departmental level. Consequently, there is no forum to drive entrepreneurship policy and initiatives in a coherent manner.” [Forfás (2007)]

“There is currently no co-ordinated national approach to encourage or support entrepreneurship, and there is no systematic programme of entrepreneurship education at primary, secondary and third levels.”

“While the State operates many initiatives aimed at inspiring entrepreneurship and supporting start-ups, these supports and initiatives are generally uncoordinated and do not amount to a coherent policy.

As Ireland develops as a knowledge-based society over the coming decade and indigenous businesses assume a more significant role in the overall economy, it is imperative that entrepreneurship be nurtured, so as to maximise the number of new business startups and to ensure that they realise their potential for growth and development.”

“Government should formally adopt a National Entrepreneurship Policy focused on optimising the number of start-up businesses, and in particular on maximising the number of start-ups aspiring to and achieving high growth. This policy should build upon three specific platforms:

- *Stimulating latent entrepreneurial potential, particularly among women and the immigrant*
- *Reinforcing entrepreneurship in the education system; and*

- *Enhancing the culture for entrepreneurship.*

The range of existing initiatives aimed at stimulating entrepreneurship should be incorporated into this policy, to ensure a cohesive, coordinated approach.

Department of Enterprise, Trade & Employment; Department of Education & Skills [Small Business Forum report, 2006]

“In Ireland, the Department of Enterprise, Trade and Employment has displayed a strong level of commitment. The next step will be to discuss together with the Department of Education & Science the requirements of developing the necessary framework.” [EU Best Report 2004, Anna Gethings]

To understand just where Ireland is at in terms of an entrepreneurship education policy it is instructive to trace the emergence of small business policy and entrepreneurship policy.

Emergence of Small Business policy in Ireland

The development of Irish indigenous industry has long been eclipsed (and some might argue arrested) by the prodigious success of the Foreign Direct Investment (FDI) sector in Ireland since the adoption of outward oriented policies at the beginning of the 1960s.

The Telesis Report (1982) criticised the economy’s reliance on foreign industry and highlighted the need for attracting strategic industries and giving more attention to indigenous enterprise. The ensuing 1984 White Paper on Industrial Policy advocated a reduction in FDI grants and positive discrimination towards new or expansionary FDI projects which offered to locate key strategic functions in Ireland.

The Industrial Development Act of 1986 and 1993 delivered a more advanced framework for enterprise support infrastructure and an influx of strategic multi National Enterprises (MNEs), both of which increased the strength of indigenous enterprise in Ireland.

The 1992 report of the Industrial Policy Review Group (Culliton Report) argued that Ireland needed to move from factor-driven economic development to a higher stage where innovation became the key driving force in the economy. Its findings would be articulated in subsequent National Development Plans and Social Partnership Agreements.

In 1993 the Government set up a Task Force on Small Firms comprised to a large extent of small business entrepreneurs. This action marked the first time this sector was given official recognition as a key driver of economic development — prior to 1993 there was no single focus for the development of small businesses (defined as having under 50 employees or turnover under £3m).

The Task Force’s comprehensive report in March 1994 gave a detailed view of the particular needs of this emerging sector and made over 120 recommendations. These included 3 recommendations on entrepreneurship education:

1. An increased emphasis on project work within the existing curricula in schools

2. The mini company initiative to be more widely implemented
3. More enterprise education in the transition year and in senior certificate programmes

Key institutional recommendations included the establishment of a Small Business division within the Department of Enterprise (a Small Business and Services Division was set up in June 1994), a Joint Oireachtas Committee on Small Business to 'small business proof' all legislation (set up in March 1995), and a Small Business Forum of practitioners to advise the Minister for Enterprise (a Small Business and Services Forum was set up in September 1995). The Forum would review annual progress reports on the implementation of the Task Force recommendations.

The 1997 Social Partnership Agreement ('Partnership 2000') devoted a complete chapter to addressing the evolving needs of Small Business and the Government committed itself to a range of priority actions to remove burdens oppressing the sector.

Thus, it was only in the mid 1990s that Irish indigenous industry was finally getting into its stride, several decades later than its counterparts in other countries had come of age.

FDI may have eclipsed the Small Business sector but it had a silver lining; the Irish indigenous sector was able to capitalise on the substantial transfers of technological and management know-how from the resident MNEs, and the foreign-owned cohort also afforded an invaluable, sophisticated market opportunity on the sector's doorstep whereby it could cut its teeth before competing in the same modern sectors beyond its shores.

Up to now the predominant rubric among policy-makers for indigenous industry had been 'Small Business' but, as the new millennium beckoned and starting a new business became a viable career option for increasing numbers in the Irish workforce and college graduation classes, the word entrepreneurship increasingly entered the policy lexicon.

Entrepreneurship and entrepreneurship education policy

Enterprise Strategy Group (2004) report, Ahead of the Curve

The seminal policy document, commenting on Irish entrepreneurship education was the Enterprise Strategy Group (ESG) report, *Ahead of the Curve*, published in 2004. The ESG was appointed by the Government to prepare an enterprise strategy for growth and employment in Ireland up to the year 2015. Its report built on the 'Review of Industrial Policy & Performance', completed by the Department of Enterprise, Trade & Employment in Autumn 2003, and set out medium term enterprise opportunities for the economy. The report placed major emphasis on the need to grow the base of indigenous firms in Ireland in order to balance and complement the contribution of foreign direct investment to the economy.

Given its importance and potential contribution to economic development, the ESG stated their support for specific initiatives to support entrepreneurship. The

ESG report identified innovation and entrepreneurship as one of four ‘essential conditions’ for international competitiveness.

The Group identified five sources of competitive advantage for Ireland and one was its education and training systems. Its report recommended a range of measures to embed commercial awareness and entrepreneurship at all levels of the education system, and to enhance the perception of entrepreneurship as a real career option.

The report noted that education and training — both in its content and in the way in which it is delivered — can instil a positive attitude to entrepreneurship among students by:

- Providing positive role models and promoting self employment as a long-term career goal and focusing on this area in the curriculum, in transition year and in career guidance advice, with a particular emphasis on potential early school leavers
- Fostering positive attitudes to personal responsibility, independence, self-directed learning, initiative and risk-taking
- Teaching the basics of business, finance and communication at primary, secondary and higher levels of education
- Giving greater recognition to non-academic achievement
- Ensuring access to entrepreneurial award schemes
- Providing relevant entrepreneurial training at third level, including a focus on commercialisation of academic innovations.

The applied and practical Leaving Certificate courses and the transition year facilitate this process. Many of the higher education and training institutions provide modules on entrepreneurship and these should be encouraged and further developed.

The Action Plan drawn up to oversee the implementation of the ESG recommendations listed the following items under entrepreneurship education:

- Entrepreneurial skills to be included in the syllabus for the senior cycle and any necessary curricular changes made at primary and junior cycle level.
- Entrepreneurial multi-skilling based on core abilities in literacy and numeracy and the use of ICTs to be included in the revised primary curricula. Actions at primary and junior cycle level include extending higher order thinking abilities, developing problem solving skills and building competencies in a second language. The NCCA was actioned to furnish a report to the Minister for Education and Science in early 2005.
- Enhancing entrepreneurial culture and abilities will continue to be promoted through the Transition Year Option, the Leaving Certificate Vocational Programme (LCVP) and the Leaving Cert Applied Programmes. Overall some 40,000 + students engage in work experience as part of these programmes.

- Support should be provided for widespread operation of award schemes aimed at encouraging entrepreneurship in primary and secondary levels of education. Schools to be encouraged to participate in Junior Achievement, National IBEC Business Education Links Scheme and other young entrepreneur activities.

The Action Plan also recommended that the City and County Enterprise Boards (CEBs) should be integrated into the mainstream enterprise development system by establishing a Central Coordination Unit in Enterprise Ireland.

A number of non-statutory organisations also promote entrepreneurship with educational programmes and award schemes, in association with state educational bodies and the enterprise development agencies, particularly the City and County Enterprise Boards. These initiatives make an important contribution. Ideally, they should co-ordinate their efforts to deliver attractive and content-rich modules, programmes and experiences for students, on a more widespread basis. Opportunities for all-island initiatives should be pursued.

Small Business is Big Business, report of the Small Business Forum, DETE (2006)

In 2006 the Small Business Forum (SBF) published its report, Small Business is Big Business which reinforced the ESG recommendations on entrepreneurship education.

A total of 15 recommendations are included in the report addressing 10 priority issues identified throughout the consultation process. These focus primarily on three areas:

- Creating a better environment
- Stimulating growth
- Inspiring entrepreneurship

In chapter 5 of the report, Inspire Entrepreneurship, the Forum discussed how to reinforce entrepreneurship in the education system. It acknowledged that there were a number of initiatives aimed at developing commercial awareness and fostering entrepreneurial mindsets among students at each level of the education system (e.g. Junior Achievement, Student Enterprise Awards) but these initiatives were not operated on a widespread basis, and only a relatively small number of primary, secondary and third level students participated.

Moreover, while the secondary curriculum included a number of business-related subjects, such as business studies, accounting and economics, these did not provide students with the broad suite of concepts and practical skills that are required for entrepreneurship, such as creativity, risk-taking, commercial awareness and communications skills. The Leaving Certificate Applied and Leaving Certificate Vocational Programme syllabi did address some of these topics, but these syllabi were taken by relatively few students.

In its recommendations on entrepreneurship education the Forum report stated that it was essential that steps be taken to encourage entrepreneurship among the young through a number of measures:

- Full implementation of the Enterprise Strategy Group's recommendations relating to entrepreneurship.

The Department of Enterprise, Trade & Employment should work with the Department of Education & Skills to bring about implementation of the recommendations.

Specific indicators should be established to monitor progress on the implementation of these recommendations.

- As a part of their education at teacher training colleges, secondary teachers should be equipped with the skills and knowledge to deliver commercial thinking and entrepreneurship courses.
- Responsibility should be allocated for promoting entrepreneurship and commercial awareness in second and third-level education.
- At second level, the Business Studies Teachers Association of Ireland, through its members, should champion the introduction of appropriate modules in the school curriculum. Transition Year provides an ideal opportunity for the implementation of such modules.
- At third-level, the heads of Business and Entrepreneurship departments should champion the introduction of entrepreneurship modules for students completing courses across all faculties.

The Forum called for a National Entrepreneurship Policy. It found that the State operated and supported many initiatives aimed at inspiring entrepreneurship and supporting start-ups, but that these supports and initiatives were generally uncoordinated and did not amount to a coherent policy.

It recommended that a National Entrepreneurship Policy focus on optimising the number of start-up businesses, and in particular on maximising the number of start-ups aspiring to and achieving high growth. This policy should build upon three specific platforms:

- Stimulating latent entrepreneurial potential, particularly among women and the immigrant community
- Reinforcing entrepreneurship in the education system
- Enhancing the culture for entrepreneurship.

The range of existing initiatives aimed at stimulating entrepreneurship should be incorporated into this policy, to ensure a coherent, coordinated approach

Responsibility: Department of Enterprise, Trade & Employment; Department of Education & Skills.

Towards Developing an Entrepreneurship Policy for Ireland, Forfás (2007)

This was another pivotal report supporting entrepreneurship education.

The report arose out of the Small Business Forum's call for a National Entrepreneurship Policy. The Department of Enterprise, Trade and Employment asked Forfás to assist in drawing up an entrepreneurship policy statement. Forfás worked with an advisory group and the national coordinator for the Global Entrepreneurship Monitor (GEM), Paula Fitzsimons, in drafting a report to provide the background and supporting information for a national entrepreneurship policy statement.

The report recognised that the existing level of entrepreneurial activity was strong but recommended that Ireland take measures to build on the current entrepreneurial momentum for the future. It proposed moving Ireland up into the group of the most entrepreneurial countries in the world. Its vision statement was for an Ireland characterised by a strong entrepreneurial culture, innovative entrepreneurs and acknowledged as an excellent place in which to start and grow a business. This would require leadership and commitment by the whole of Government and action from a wide variety of influential players across the public and private sector.

To achieve the vision, Forfás suggested that a National Entrepreneurship Policy should focus on three key main areas:

1. Leveraging a positive culture and the resources of our education system
2. Harnessing the potential of women and immigrants
3. Maintaining and developing an environment that is conducive to both establishing and growing businesses.

Culture and Education

Culture and education can foster a spirit of enterprise and strengthen the motivation and capacity of entrepreneurs and potential entrepreneurs. The report looks at a number of options for further development in these areas:

- Involving the education system in reinforcing positive perceptions of entrepreneurship.
- Building on positive media interest and goodwill towards entrepreneurs.
- Improving recognition of entrepreneurship as a career choice, among students, parents and teachers.
- Making enterprise education a more formal part of the education system in Ireland (as put forward by the National Council for Curriculum and Assessment).
- Embedding entrepreneurship training in professional teacher training qualification and adopt innovative methods to do so.
- Ensuring entrepreneurship is part of the third level curriculum for students from non-business and business courses alike.

- Ensuring sustained funding of entrepreneurship education activities and for the nationwide implementation of enterprise projects in schools.
- Linking new knowledge developed by the researchers at third level to entrepreneurs who have the perception, skills and motivation to commercialise it.
- Developing entrepreneurial ambassadors among Government and political representatives, successful entrepreneurs, financial and educational sectors and opinion leaders.

Forfás set out ‘*Guiding Principles for a National Entrepreneurship Policy*’ which would require strong Government endorsement and the commitment of Ministers to assure its successful implementation. Forfás proposed a National Entrepreneurship Forum as a focal point for the partnership of Government, entrepreneurs, other relevant stakeholders and all interested in developing and benefiting from an entrepreneurial society. This Forum would champion entrepreneurship and drive the implementation of policy and the achievement of the key objectives. A clear timeframe, targets and responsibilities would be set down for each of the key objectives and appropriate resources committed to their achievement. Progress would be monitored and reported as part of the Annual Entrepreneurship Review.

Regarding entrepreneurship education Forfás noted that the recommendations of the ESG and the SBF broadly reflected the approach in the Oslo Agenda and it recommended that a national strategy for entrepreneurship education be developed which adopts the spirit and tenets of the Oslo agenda tailored to the Irish context.

In December 2007 the Third Progress Report on Implementation of the Recommendations of the Report of the Small Business Forum stated that a Draft Policy Statement has been submitted to the Department of Enterprise, Trade and Employment (DETE) for consideration and DETE was currently preparing a final Policy Statement for submission to the Minister and/or Government, as appropriate, for adoption. The Department expected the Policy Statement to be published in early 2008.

The Time is Opportune

The long-gestated Entrepreneurship Policy Statement has still not appeared. Commentators claim it is patently evident that now is an opportune time to publish the policy. With the economy facing an unprecedented challenge in terms of fiscal debt and unemployment the new government must heed the accumulated advice of the various eminent fora and announce a co-ordinated inter-departmental approach to entrepreneurship support, including a coherent programme of entrepreneurship education for primary, secondary and third levels.

3.8.3 Authorities managing entrepreneurship education: profile, competence and performance

The principal authorities driving entrepreneurship education from the enterprise side are the City and County Enterprise Boards (CEBs) and Enterprise Ireland.

City and County Enterprise Boards

The responsibility for the provision of training and counselling for new enterprises and micro-enterprises is vested in the network of 35 city and county enterprise boards (CEBs). These boards play a pivotal role in assisting start-up business and in the development of micro-enterprises in Ireland. Under the National Development Plan, the CEBs are engaged in fostering an enterprise culture — both through the existing educational structures and in existing enterprises. The Boards are free to design and to deliver the specific needs of their communities in four broad areas:

- Preparation/review of local enterprise plans/promoting an enterprise culture,
- Business information/advice, counselling and mentoring support,
- Financial assistance,
- Management development.

State support for entrepreneurship, in this respect, is focused on the ongoing creation of new entrepreneur-led business entities with a solid base in innovation, intellectual capital, and a capability to become internationally competitive within a short period of time. While up to a few years ago the IT and software sectors would have dominated the start-up profile, emerging businesses in new sectors such as biotechnology, photonics, medical devices, and functional foods are now becoming more commonplace.

CEBs' commitment to EE

The 35 County and City Enterprise Boards (CEBs) were established in 1993 to provide support for indigenous enterprise by developing the micro enterprise sector throughout the country. There was a proposal to consolidate the number of CEBs to about twenty.

CEBs have strategically focused a large proportion of their resources in the area of enterprise education at primary and secondary schools levels. The aim of CEBs is to increase the number of students participating in enterprise initiatives so student attitudes towards establishing their own business can evolve.

The CEBs are very eager to support entrepreneurship education at all levels in Irish education. Each year over 20,000 students participate in the various CEB-supported programmes building bridges between the classroom and the workplace. The principal CEB supports are its Bí Gnóthach programme at primary level, the Mini Companies programme in Transition Year, and the Exploring Enterprise programme featuring the Student Enterprise Awards (SEAs) for senior cycle students.

Through their involvement with these programmes Enterprise Boards have built a relationship with teachers and are anxious to develop these relationships in the interest of improving the support that they can provide to schools. The Boards provide practical support to teachers including arranging visits by business advisors, mentors or entrepreneurs to the classroom in an effort to augment the work of teachers in the entrepreneurship area.

Students benefit practically from the experience-based learning opportunities provided to them. Contact with role models helps them to explore career and business options and develop the skills and mind-sets needed for a changing world. Teachers too learn from their collaboration with business experts who bring hands-on experience into the classroom. Schools can develop strong partnerships with business in their local communities.

The CEBs have committed themselves to continuing to deliver their existing programmes and to designing further innovative programmes and materials to reflect the increasing sophistication of the business world.

Enterprise Ireland

Enterprise Ireland (EI) is the government organisation responsible for the development and growth of Irish enterprises in world markets. It works in partnership with Irish enterprises to help them start, grow, innovate and win export sales on global markets. Its major targets are sustainable economic growth, regional development and secure employment.

EI has been very active in supporting the establishment of the necessary physical infrastructure to facilitate new and emerging innovative businesses. The agency has completed a €30 million project with the third-level Institutes of Technology to develop on-campus incubation centres to facilitate the generation of new high-growth companies.

EI has been associated with student enterprise since the early 1990s when it set up the Enterprise Ireland Student Enterprise Awards to encourage innovation, promote enterprise and foster a spirit of entrepreneurship among third level students.

The Awards competition was rebranded in 2011 as 'Enterprise Ireland. Think Outside the Box Awards' and is sponsored jointly by Enterprise Ireland, Invest Northern Ireland, Cruickshanks Intellectual Property Attorneys and Mammoth Advertising.

3.8.4 Finance mechanisms supporting entrepreneurship education

Cooney (2008) concluded from the anecdotal evidence obtained during his study and from the UK Botham and Mason (2007) research that funding is the most critical challenge to scaling-up the level of EE activity in HE. Many 'host' departments are not willing to pay the full-funding costs of enterprise teaching to 'service providers' and top-up funding has to be 'donated' by the 'service provider' department.

Botham and Mason (2007) describe how good quality, participative, experiential problem solving EE is more expensive than traditional 'talk and chalk' style lectures, and such resource requirements are not adequately recognised in funding allocation mechanisms.

The EU (2008) '*Entrepreneurship in higher education, especially in non-business studies*' report noted in its section on obstacles and factors of success that there is a clear mismatch between HEI funding allocation and the demand for entrepreneurship studies. Schools of Economics or similar departments within the institutions often have insufficient resources to train students from the other departments. And the

non-business faculties cannot increase their own supply of entrepreneurship studies for the same reason. Therefore, a main priority is to organise specific funding for this type of education embedded in the institution's core financial resources. The report noted in particular that short-term project funding or the continuous changing of funding mechanisms creates fragility and runs counter to sustainable provision.

Irish EE would be characterised by commentators as very fragile indeed in regard to the lack of a dedicated and secure sources of funding.

It is telling that a glance at the NCGE/YES survey of Irish HEIs shows that only 2 to 4 of the HEIs were able to make any stab at questions eliciting information about EE funding sources.

The inference of EE funding fragility is clear, and reflects probably the most serious consequence of the absence of an Irish entrepreneurship education strategy and an overarching entrepreneurship strategy.

3.9 Good Entrepreneurship Education Policy Practices

The Final Report of the EU Expert Group on Education and Training for Entrepreneurship (p. 53) reached a number of key Policy Conclusions — which resemble in many cases those identified in this project (see Chapter 5). Based on these agreed Conclusions across a wide range of countries and encompassing the whole education system (outlined below) we subsequently put forward a number of 'pen pictures' of what can be regarded as 'good policy practices' in Ireland — although many aspects of current Irish policy approaches can not be given that designation.

National Policies

There is today in almost all countries — although in varying degrees — a policy commitment at governmental/ministerial level to promote the teaching of entrepreneurship in the education systems.

However, there is in some cases a need to improve coordination between the different ministries and agencies involved in entrepreneurship and education.

The development of indicators and the collection of quantitative data in this field are still very limited. In most cases, precise figures are not available at a national level on the number of schools and teachers involved in entrepreneurship courses and programmes, and on the number of students participating in these schemes. As a result, it is currently impossible to measure in precise and objective terms the effort that is being produced at national level.

The evaluation of measures undertaken is mostly done on a limited basis or occasionally. Also, there is no widely accepted measure of outcomes (for example, entrepreneurial capability) against which many of these activities can be judged.

Links between schools and the world of business aimed at promoting entrepreneurship are widely developed in most countries, in many cases as a result of initiatives taken at a local level and independently by individual organisations

or educational institutions. However these links need to be further increased, as cooperation between schools and businesses or business associations is a privileged means to introduce entrepreneurship in practice into the educational pathway.

The education system and existing programmes

Initiatives aiming at promoting the development of an entrepreneurial spirit in pupils are still rare at the level of primary school, although a number of examples of good practice can be found in this area.

This type of teaching is more frequent in secondary schools, very often depending on initiatives taken individually by the educational institutions.

Initial vocational training systems of secondary level — in most countries — are currently not sufficiently orientated towards self-employment and entrepreneurship.

Entrepreneurship training at university level is mostly focused on students following economics and business courses. This type of training should be made more generally available, in particular within courses on a broad range of different subjects (for instance science, engineering, arts, etc).

The current provision of specific training for teachers on the subject of entrepreneurship is largely insufficient, both as regards initial training in teachers' colleges and further vocational training available for the teachers during their career. This is a major obstacle to introducing the concept of entrepreneurship into the classes.

Schemes based on “learning by doing” — by means of pupils and students creating and running mini-enterprises — are widely used in many countries to develop entrepreneurial skills, in particular at secondary level. However, they should be better integrated into the education systems and be more generally available.

There is a deficit of private funding for entrepreneurship programmes in Europe. Moreover, the private sector tends to invest mostly at university level and in fields related to science and technology (as the return for investment is seen as more certain), while suitable investment should also be encouraged at the lower levels of education.

As already stated above, according to the EU Expert Group on Education and Training for Entrepreneurship, in order to be a good practice:

- (1) The practice should exist already.
- (2) It should have clearly identifiable aims and objectives.
- (3) It should be user-friendly and appealing to participants.
- (4) It should be adaptable and transferable.
- (5) It should be sustainable and have a long-term perspective.
- (6) Its results should be identifiable and capable of evaluation.

- (7) Its being coherent with other good practices, both in concept and delivery, would be advantageous.
- (8) Over a range of relevant indicators, it should clearly out-perform other practices in terms of efficiency and effectiveness.
- (9) It should be capable of being continuously improved.

The following examples — which encompass both the impact on the education sector of overall entrepreneurship policy as well as entrepreneurship education more narrowly defined — are put forward as good Irish policy practice:

The 3rd level and High Potential Startups

- What is innovative, in the case of Ireland, is the targeting of universities and Institutes of Technology of “high potential business start-ups” as part of Ireland’s new Regional Growth Strategy. This includes government funding and support for the establishment of campus incubators, campus venture capital funds, graduate enterprise programmes and support for campus companies. Most of the universities in Ireland have a formal and co-ordinated structure with which to address the entrepreneurial effort on their campus. Others employ an informal structure that also offers students a degree of creativity and innovativeness associated with their studies.

Enterprise Platform Programme (EPP)

- Under the Irish National Development Plan 2007–2013, over €12 million is being provided to support graduate entrepreneurs through the Enterprise Platform Programme (EPP), which is being run in the country’s Institutes of Technology. Graduates from any discipline and educational institution with a relevant business idea or existing small business can apply for the Programme, with the objective of launching or strengthening a business. The Enterprise Platform Programme is a one-year rapid incubation programme which includes an appropriate balance of formal education, training, personal development, counselling, business mentoring, and business guidance to provide participants with the skills necessary to develop a business idea to a sufficient stage of development to be launched or — in the case of businesses which are already trading — to strengthen their market or trading position.
- Enterprise Ireland developed the EPP as a one-year rapid business incubation programme to develop the entrepreneurial skills of HPSU entrepreneurs and help them realise the full potential of their businesses. The programme provides comprehensive business development and financial support to third level graduates, who are currently in employment and wish to start their own business. The EPP incorporates a remuneration package, research and development (R&D) funding, extensive group training, one-to-one mentoring and the provision of incubation space. The rationale for Enterprise Ireland’s investment in the EPP is that studies of incubated firms have shown substantial differences in their pre and post-incubation sales and payroll growth.
- Businesses that are classified as ‘high potential start-ups’ are targeted and supported through the EPP programme and the establishment of campus companies as part of Ireland’s Regional Growth Strategy. This programme is reflective of the way in which entrepreneurship education has moved in Ireland in recent years.

BSc in Culinary Entrepreneurship — Honours Degree – Level 8

- The BSc. (Honours) in Culinary Entrepreneurship offered by Dublin Institute of Technology aims to provide the knowledge and skills necessary to operate a culinary business or work as a culinary/food and beverage manager in a professional organisation. The programme builds on the strong relationship between food, wine and business, providing students with the opportunity to work in a dynamic international culinary-related industry.
- The first two years of the programme provide the underpinning necessary to understand culinary management. In year three students have the option of national or international internship, students who undertake the international placement in a European country outside of Ireland will be grant aided under the Life Long Learning Strategy (subject to application approval on a year on year basis). Students may opt for placement in vineyards, hotels, restaurants, food manufacturing outlets or culinary event management. Teaching in years three and four is specifically geared to the everyday needs of a dynamic culinary entrepreneur.

Leaving Certificate Vocational Programme for Second Level Schools

- The Leaving Certificate Vocational Programme (LCVP) for Second Level Schools is a priority of the Department of Education and Science and is designed to give a strong vocational dimension to the Leaving Certificate (established). The programme combines academic study with a dynamic focus on self-directed learning, enterprise, work and the community. A large proportion of schools (507) and students (31 500) are involved. A dedicated team of teachers manage the programme, which links with the local businesses and the local community and is supported by the central government. The programme has a cross-curricular, interdisciplinary emphasis. Its approach is very much based on learning by doing, its overall objective being to produce the skills and qualities of self-reliance, innovation and entrepreneurship.
- Programmes like the Leaving Certificate Vocational Programme (LCVP), Leaving Certificate Applied (LCA) and Transition Year offer students the opportunity to experience entrepreneurship modules. Additionally, in Ireland, entrepreneurship activities promoted by external organizations are embedded — offering a good example of integrating independent initiatives into the curriculum. There are different activities, but they are organised in a package where state programmes co-exist with initiatives led by the private sector or by partnerships.

4 Enterprise Education activities

4.1 Enterprise education activities from primary to third level

Introduction

In addition to the formal entrepreneurship education elements of the curricula in Irish primary and secondary schools, students may participate in entrepreneurship activities (awards competitions etc) instigated by external organisations such as government agencies (e.g. CEBs) and NGOs (e.g. Junior Achievement). In many instances these activities have become an accepted part of the school programme and have been endorsed by the Department of Education and Skills though not part of the formal curriculum. Commentators describe such externally promoted activities as ‘embedded’ or ‘anchored’ in the curriculum. Many schools collaborate with personnel from the partner organisations to integrate the activities into their school plans.

While, relative to other countries, Ireland may be commended for its initiative in embedding independent programmes into the curriculum, the downside is that these activities are not compulsory, and some schools may decide to offer no extra activities at all. Moreover, initial teacher training for these extra activities is not compulsory nor is in-career support services always available. The result is that the degree of quality and effectiveness of the programmes can vary from region to region and from school to school depending on the motivation of the individual teachers to become involved in the activities.

4.1.1 Activities at Primary Level

Two of the main nationwide activity programme at primary level are Bí Gnóthach and Junior Achievement Ireland (JAI).

Bí Gnóthach Enterprise Programme (BG)

The aim of the Bí Gnóthach programme is to promote enterprise education in 4th, 5th and 6th classes at primary level by introducing students to many aspects of setting up and running an enterprise while also learning about the world of work. The programme is founded on the key principles of the primary curriculum, the centrality of the child as learner, the importance of active participatory approaches

and the necessity for skills development. There is an emphasis on teamwork and interpersonal skills.

The programme was developed by the Curriculum Development Unit of Mary Immaculate College, University of Limerick, in association with the CEBs. The programme includes a video and resource pack with teacher's notes and activity sheets. Bí Gnóthach is a cross-curricular programme designed so that it can be integrated effectively into many subject areas of the curriculum.

The video addresses the advantages and challenges of enterprise while exploring many of its principles, including risk-taking and advertising. Between January and June 2000, the Bí Gnóthach pack was sent out to over 1,000 schools. Feedback on the video is positive though some suggest it could do with a makeover.

The BG programme discusses the ethics of enterprise and promotes environmentally friendly practices. Strong links between the home, school and community are forged and the world of work is explored extensively through surveys and class visitations.

The success of the programme depends on the effective collaboration of the various partners in education — children, parents, teachers, and members of the community. But the uptake of the BG programme nationally has been very disappointing, with only three CEBs reporting school participation in 2009/2010:

South Dublin	36 schools participating with 1,130 primary pupils;
Fingal	10 schools participating with 370 primary pupils;
Limerick City	1 school participating with 30 primary pupils.

The South Dublin Enterprise Board (SDCEB) was contacted to probe the reasons for its success. The programme was piloted by SDCEB in 2005–2006 with 19 schools participating. Things didn't progress too well until the Enterprise Board approached the Dublin West Education Centre (DWEC) for help. Now SDCEB has over 40 participating schools (roughly 50% of the total primary school cohort in its catchment area).

SDCEB gives the following reasons for their successful 're-activation' of BG:

- The Director of DWEC is very supportive (he himself was a former Primary School principal and knows how things work).
- He was able to point SDCEB to the 'perfect candidate' to act as their 'Resource Officer' (some call the role an EE Development Co-ordinator). This person was a local retired head teacher who had great contacts and credibility in the area. SDCEB contracted this person to undergo a day's training in Mary Immaculate College and then go around the Dublin schools encouraging and supporting the teachers.
- The DWEC head was also instrumental in 'coaxing' other schools to get on board the BG programme.

The DWEC also gave some pointers for success:

- Programmes such as BG definitely need to be marketed sensitively and backed up with expert support. Teachers are already very stretched with their 12 subjects, and Religion and extra activities (music, sport, etc), and won't welcome a BG circular dropping through the letterbox.
- There are pressure points in the Teaching calendar and a good EE Coordination Officer will know when to step in and when to step out.
- Sixth class is too busy for extra activities.
- They made the point that primary teaching is child-centred so good teachers spontaneously instil a lot of enterprising spirit.

The feeling of Primary Teachers (and the Professional Development Services for Teachers) is that Primary pupils should not be subjected to competitions. But, to reward them for their good work, teachers may organise a display of 'Enterprise Diaries' in the local library.

Junior Achievement Ireland (JAI)

Junior Achievement Ireland was established in Ireland in 1995 as part of a worldwide organisation reaching out to some 10 million young people each year, encouraging them to remain in education and teaching them the skills they need to succeed in a changing world.

The international networks 'Young Enterprise Europe' and 'Junior Achievement' merged in September 2002. JAI programmes are especially designed for students between the ages of 5 and 16 years, and are generally based on an early understanding of the world of business, on case studies and learning by playing.

From an initial base of 500 pupils in 1996, JAI has built up a strong demand from schools throughout the country and is currently working with 66,000 pupils and 470 schools nationwide (school year 2010/2011).

Table 4.1: *Number of participating JAI schools by location*

	Primary Schools	Secondary Schools
Carlow	1	
Cavan	15	6
Clare	18	5
Cork	39	20
Donegal	15	8
Dublin Central	33	18
Dublin N	16	13
Dublin S	28	11
Dublin W	22	11
Galway	21	10
Kildare	6	4
Kilkenny	7	5
Laois	4	
Leitrim	5	5
Limerick	12	10
Louth	8	10
Mayo	5	
Meath	3	1
Monaghan	6	4
Roscommon	2	
Sligo	8	7
Tipp	12	4
Waterford	11	6
Wexford	5	2
Wicklow	3	3
Total	305	163

Source: Junior Achievement Ireland.

JAI has created successful partnerships with leading business organisations in the private sector. All Junior Achievement programmes are taught by business volunteers recruited from supporting organisations who are fully trained before they commence their programme.

School programmes are designed for each age group and are sequential, with each programme building on the concepts introduced in the previous programme. These structured programmes use hands-on activities to introduce enterprise to the classroom and give children an awareness of the job opportunities available to them. Each programme consists of five modules taught in the classroom by the volunteer.

Using stories, visual aids, construction kits and other student-friendly resources, the volunteers help students to understand and value the socio-techno-economic world that surrounds them. Topics covered include the role of families in the local economy, where the local shops get their goods from, the contribution of science and technology to social and economic life, and the social responsibilities and economic opportunities within a community.

Junior Entrepreneur Programme (JEP) in Kerry region

The Junior Entrepreneur Programme (JEP) is a new pilot programme for primary school pupils in the Kerry region. It was launched in February 2011 by the founders of the very successful Young Entrepreneur Programme (described below) who teamed up with Mary Immaculate College and Kerry County Enterprise Board.

The JEP, in conjunction with the Primary curriculum, aims to develop the social, emotional and cognitive skills of the children as well as to promote self-confidence and reward initiation. Students will develop skills such as presentation, writing, drawing, technical skills, dealing with money and storytelling during the ten week period. During the programme they will work in teams to research and develop their product or service ideas and eventually sell them in their schools whereby they will learn about the cost of producing and selling a product or service.

Once the programme is complete each student will be presented with a JEP Certificate of Participation and participating schools will become part of Kerry's European Entrepreneurial Region celebrations in May 2011. Three key events attract large audiences and attention and include Blue-sky Day held in early October, Business Bootcamp held in February and Entrepreneurship Awards Ceremony held in early May.

Local CEB Initiatives

Baily (2009) profiled individual CEB initiatives including the following:

- Interview with an Entrepreneur: Tipperary North County Enterprise Board;
- Enterprise Rocks: South Tipperary County Enterprise Board;
- Primary school programme: Wexford County Enterprise Board (WCEB);
- 'Let's Do Business': Donegal County Enterprise Board;
- Student Enterprise Programme: Carlow County Enterprise Board;
- Practical Enterprise Programme (PEP): County Laois;
- Communications Workshop: Laois County Enterprise Board;
- Most Enterprising Student initiative: Offaly County Enterprise Board.

4.1.2 Activities at Second Level

Birdthistle (2006) traced the evolution of EE programmes at Secondary Level:

- 1981 The Schools Industry Links Scheme (SILS) was created to promote Business enterprise at second level schools.
- 1993 The establishment of the City and County Enterprise Boards initiated the development of second level programmes.
- 1995 Junior Achievement/Young Enterprise Ireland was established to assist both primary and secondary schools to develop enterprise education by linking the classroom and business environment.
- 1999 The Knowledge through Enterprise for Youth Programme (KEY) assists those between the ages of 14-16 from disadvantaged areas to develop enterprise skills through various workshops focused on developing entrepreneurship through learning.

- 2000 The Irish Times Business 2000 is an initiative set up in conjunction with the Leaving Certificate Business Course. It provides students with case study material relevant to the Leaving Cert Business programme.
[This has subsequently become The Sunday Business Post Business 2000]
- 2001 Business in the Community Schools Partnership (BITC) primarily focuses on the secondary school sector and fosters links with businesses.
- 2002 The Student Enterprise Awards, which replaced the Golden Vale Award Programme, encourages students to become involved in enterprise after they leave school by participating in an enterprise at school level.
- 2002 Captains of Enterprise is an initiative set up by Limerick Enterprise Board to encourage more women to act entrepreneurially through consultation with students and entrepreneurs.
- 2003 Enterprise at School encourages students participating in the Transition Year, LCA and LCVP programmes to learn about entrepreneurship through on site lectures.
- 2004 Learning and Educating Together (LET) programme was established under the KEY programme and has the same objectives. However it is mainly focused on 12-13 year olds in an attempt to solve the issue of early school leavers in disadvantaged areas.
- 2004 The Celtic Enterprise Programme has a similar objective as the Student Enterprise Awards, but at a regional level, and provides enterprise career advice for participating students.
- 2005 Enterprise In Action is an initiative introduced to give students a basic understanding of the role of business in the Irish economic system.

Today the Flagship second level programmes include

- Transition Year 'Get up and Go' Mini Companies;
- Student Enterprise Awards (SEAs);
- Young Entrepreneur Programme (YEP).

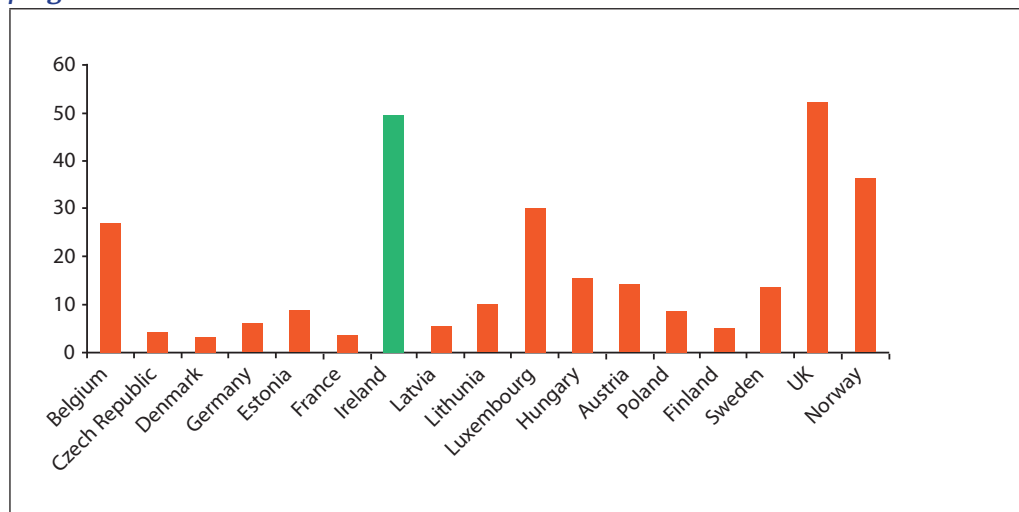
Transition Year Mini Companies

In their 2005 final report the Expert Group in the EU Best Procedure Project singled out the running of Mini-Companies by students as the pedagogical tool of choice across Europe to stimulate entrepreneurial attitudes and skills in secondary schools. They defined a student mini-company as a pedagogical tool based on practical experience by means of running a complete enterprise project, and on interaction with the external environment. The promotion of this tool had been recommended earlier in the EU detailed work programme Education and Training 2010 presented to the Barcelona European Council in 2002.

The BEST report estimated that more than 200,000 students every year participated in these programmes in the EU 25 and Norway. However, students participating in mini-company programmes were still a very small minority. During the 2003/04 school year, in most countries the rate of secondary school students involved was estimated to be below 1% of the total, and above 2% in only 5 countries.

In 2009 the EU High Level Reflection Group on Entrepreneurship Education issued data showing Ireland and the UK clearly leading the field in the use of Mini-Companies with 50% of all secondary schools participating.

Figure 4.1: Percentage share of secondary schools participating in Mini-company programmes



It was noted that Ireland had a great variety of student company activities, most of them incorporated within programmes that formed part of the official curriculum.

Students involved in Transition Year as well as students doing the LCVP or LCA are generally involved in a programme of enterprise studies which may involve mini-companies.

The objective of mini-companies run by students is to develop on a small scale a real economic activity, or to simulate in a realistic way the operations of real firms. Though operating in a protected environment and for a pedagogical purpose, frequently student companies produce and sell real products or services.

By participating in mini-company projects students gain competence in the areas of co-operation and networking and learn to assume new roles. Their skills are continually developed in the fields of planning, decision-making, communication and the willingness to assume responsibility. They develop self-confidence and the motivation to perform, learn to think critically and, particularly, gain the willingness and ability to learn autonomously. This engenders entrepreneurial qualities such as personal initiative, pro-activity and creativity as well as the confidence to confront risks in conjunction with implementing ideas.

While one school year seems to be the appropriate time for exploring the complex world of running a business, and for completing the cycle of an enterprise experience (from generating a business idea to putting it into practice, producing, selling and

make profit), some countries operate a shorter and more “intensive” version of mini-company programmes.

In Ireland the ‘Get up and Go’ programme was developed by the Professional Development Service for Teachers organisation in conjunction with the CEBs. It has become a popular mini-company programme for Transition Year students. The programme may be run as a 10 weeks module but best practice indicates a full year project.

It is recommended that the entire Transition Year class would constitute the “company” with managerial positions competed for by interview. Alternatively, groups within the class may also form distinct companies, but the replication of real life experiences is often best achieved through the large group.

The ‘Get up and Go’ teacher manual divides the programme into ten sections. Each section deals with particular aspects of the mini company programme:

- Introduction to mini companies including benefits of mini company, methodologies used and decisions on products
- Selection and organisation of mini company team
- Communication
- Mini Company Registration
- Marketing
- Legislation
- Business Plan
- Finance
- Closing down and winding up the mini company
- Trade fair/showcase.

By operating a mini company students are invited to participate in a mini company trade fair and this is often considered the most rewarding stage of the enterprise journey in Transition Year. Prizes are awarded in each of the following categories in the mini company trade fair:

- overall best company;
- originality of idea;
- best set of accounts;
- quality of product;
- marketing and stand presentation.

In addition to the Mini Company format, computerised business games have been extensively deployed by teachers to assist in teaching the fundamentals of business.

One popular variant taken up by some 350 second level schools is the internationally marketed ‘Small Business Game’, an online interactive simulation that gives students the experience of running their own shops. The PDST has championed an innovative approach in some schools by getting the LCVP students to teach the game to first year students.

Student Enterprise Awards programme (SEA)

The Student Enterprise Awards is perhaps the highest profile extracurricular EE activity programme in second level education. Organised by the County and City Enterprise Boards, the SEA is run in schools all over Ireland for students from first year right up to Leaving Certificate level. Some 15,000 students take part in the Awards every year and the programme culminates in a grand finale at the National Finals (in 2011 held in the Croke Park Conference Centre in April).

The SEA has an established pedigree: the programme was introduced in the 2002/03 academic years, replacing the Golden Vale Young Entrepreneurs Scheme which had in 1999 replaced the original Young Entrepreneurs Scheme (YES) inaugurated in 1991

Now in its 9th year, the SEA gives second level students in Ireland the chance to set up and run their own business, bringing a taste of real life business into the classroom. Students get to experience all the realities of entrepreneurship from coming up with their business idea and writing a business plan to producing the product, carrying out market research, promoting the business and managing the books.

The stated objectives of the programme are

- to give students practical, real life experience of setting up and running their own business;
- to encourage students to think about entrepreneurship and self-employment as a viable career choice;
- to enhance the teaching of business and entrepreneurship in schools by combining classroom learning with real life experience.

There are three categories in the awards scheme:

Table 4.2: *Student Enterprise Awards programme categories*

SEA Category	Student Year	Figures for 2009–2010*
Senior	Transition Year, 4th and 5th Year Students and Youthreach Students	11,440
Intermediate	2nd and 3rd Year Students	1,152
Junior	1st Year Students	1,594

* Supplied by CEBs’ Education Committee

Some County Enterprise Boards such as Fingal also operate an SEA category for Primary Schools.

There is a prescribed marking scheme for each business:

1. Product/Service — 50 Marks
2. Marketing — 30 Marks
3. Innovation — 50 Marks
4. Risk Management — 20 Marks
5. Business Report — 30 Marks
6. Finances — 20 Marks
7. Exhibition Stand and Interview — 30 Marks
8. Personal Development — 20 Marks.

Just as they employ Development Co-ordinators for the Bí Gnóthach programme in Primary level CEBs contract a Schools Development Officer to visit secondary schools to assist the teachers with their SEA projects. Development Officers can be retired teachers (ideally Business Teachers) or business people. A good Development Officer is a critical success factor.

CEBs continue to introduce initiatives to improve the scheme (they find that fresh ideas help to keep schools interested). ‘Innovation workshops’ (also called Ideas Workshops) have been run in individual schools aimed at increasing the level of innovative and creative new ideas and counteract the ‘following fashions’ trend that has been a weakness in the competition from the beginning. Some CEBs follow up by touring a second workshop about 6 weeks later to help the teachers convert the ideas into projects.

There are good case examples where local third level colleges have rowed in to assist the second level teachers, e.g. by offering their business or technology expertise over the phone. The HEI profits by increasing its profile as a possible third level destination in the minds of the local students.

Young Entrepreneur Programme (YEP)

The Young Entrepreneur Programme (YEP) is a good example of a strong locally based entrepreneurship scheme. A not-for-profit consortium comprising the Institute of Technology Tralee (ITT), Shannon Development’s Technology Park, the Tom Crean Centre and local champion entrepreneur Jerry Kennelly pooled their expertise and resources to develop the YEP in 2007. With its unique mix of sponsors and sustained commitment of high profile entrepreneurs YEP has gained a high level of business and media support.

YEP straddles second and third level education and is aimed at 15–23 year olds in the Kerry area. The programme, now in its fourth year of delivery, aims to foster and nurture a spirit of enterprise in students and thereby identify, inform, recognise and celebrate Kerry’s next generation of business leaders. It complements traditional learning by providing workshops, case studies and interaction with key business leaders side by side with the schools’ own curricula.

The programme runs for an academic year and is offered to all 2nd level schools in Kerry as well as in the 3rd Level Institutions of Technology in Kerry and Limerick. YEP has achieved a very high level of participation from Kerry's schools with some 600 second level participants each year.

Celtic Enterprise Programme (CEP)

The Celtic Enterprise Programme is a good example of a vibrant local entrepreneurship activity programme but with an international dimension. Launched in March 2004, CEP was a European pilot initiative for second level schools in South East Ireland and West Wales funded through the Ireland/Wales INTERREG IIIA Programme. All applications had to have a partner in both Wales and Ireland.

The programme was run by Wexford County Enterprise Board and Wexford Enterprise Centre in partnership with Career Wales West. The non-profit organisation 'Celtic Enterprise Ireland (CEI) Ltd.' was set up to organise the programme.

The programme operated a competition similar to the 'Student Enterprise Awards' competition but specifically between Irish and Welsh students. Participating student came up with an idea and translated this into setting up and running a small business. There was an upper limit of five students per team. Each team also submitted a business plan, kept financial records and wrote up a business report. Teachers and Celtic Enterprise Co-ordinators provided support and guidance to each group.

In 2005 the CEP incorporated new 'Enterprise Options' workshops. These were interactive workshops and involved students in case studies, quizzes and self-assessment questionnaires to help them determine whether or not they had the necessary skills and qualities to become a successful entrepreneur.

The pilot ran from 2003 to 2006. Then a CEP (Phase 2) was primarily directed at developing a '*Post Graduate Certificate in Teaching Enterprise Programme*' launched in conjunction with Waterford Institute of Technology and Trinity College Carmarthen in Wales. This innovative programme aimed to give all teachers involved in teaching entrepreneurship the necessary skills and knowledge to successfully deliver EE programmes to students.

Birdthistle (2006) stated that over 500 secondary school students in Wexford had participated in the Celtic Enterprise Programme. Now rebranded X-CEL (Excel through Celtic Enterprise Learning) the CEP delivers the complete student programme through a full time co-ordinator (contracted from September–April). Mentoring/workshops are provided to all schools throughout the county of Wexford. In 2010/2011 sixteen schools participated with a total of 750 students. The programme is funded by a combination of corporate sponsorship and direct funding from Wexford County Enterprise Board. The winners from the various sections go on to represent Wexford at the National Student Enterprise Awards in Croke Park.

Network for Teaching Entrepreneurship (NFTE) Ireland

National Foundation for Teaching Entrepreneurship (NFTE) is an international non profit organisation first established in the US by businessman Steve Mariotti who demonstrated that showing young people in disadvantaged areas how to make money through setting up and running their own business could enable them to make a better future for themselves.

Network for Teaching Entrepreneurship (NFTE) Ireland was established as an all island initiative, following a successful pilot scheme in Colaiste Dhulaigh and Bonnybrook Youthreach. The pilot was co-ordinated by Northside Partnership and funded by the Irish Youth Foundation.

NFTE Ireland's objectives are to build self confidence and interpersonal skills, utilise life skills as a vehicle for employability, increase career and college aspirations, increase business knowledge and encourage school completion.

Generally, students participating in NFTE range from 13–18 years of age. During the NFTE programme students study all aspects of starting and successfully running a business, covering a 40 hour curriculum which includes:

- idea generation & goal setting;
- sales & customer service skills;
- marketing & advertising;
- financial management & book keeping;
- presentation & communication skills;
- business etiquette & social responsibility.

Students also

- receive a seed grant to start their business;
- visit wholesalers to buy their business supplies;
- engage with entrepreneurs, social entrepreneurs, business executives, community leaders;
- visit local & national companies;
- work with business & corporate mentors;
- sell their products at the NFTE Class Trade Fair;
- prepare and present their business plan to a panel of judges.

Students graduate in April at the All Island Youth Entrepreneurship Awards in DCU.

Winners of the NFTE Ireland International Business Plan Competition are crowned International Young Entrepreneur of the Year and as part of the prize they represent NFTE Ireland at the Gala Awards ceremony in New York.

NFTE University (NFTE U) is a 'train the trainers' programme for the teachers and youth workers that deliver the NFTE programme. This gives teachers hands on, experiential training enabling them to deliver the NFTE programme in their schools using practical examples with a strong emphasis on each student's interests and abilities.

NFTE Ireland is currently running programmes in Dublin, Limerick, Donegal and Belfast and has plans to expand throughout Ireland in the near future.

BT Young Scientist & Technology Competition

While explicitly a Science & Technology competition, its winning entries invariably display a very substantial entrepreneurship element and many progress to become feasible commercial projects. Accordingly we feel this competition merits inclusion in any compilation of second level entrepreneurship activities.

The BT Young Scientist & Technology Exhibition has a long history. The proto-competition was first held in 1965 in the Round Room of the Mansion House in Dublin and attracted 230 entries. The success of that year was such that the exhibition moved to the much larger venue of the RDS in year two and it has remained there ever since.

In recent years the number of entries has increased dramatically, reaching an all time high in 2010 when 1616 projects were submitted. All entries are screened to select just over 520 projects that go through to compete in the RDS. The event attracts over 34,000 people making it one of the largest events of its kind in Europe.

Critique of Activity Programmes at primary and secondary level

Birdthistle (2006) concluded that the activity initiatives established in the past two decades have contributed significantly to the development of Enterprise Education at both primary and secondary school levels. Funding provided by the County Enterprise Boards assisted the majority of these initiatives to be successful. Participation in EE activities encourages students to select an entrepreneurial stream in third level and maybe even stimulate them to consider becoming future entrepreneurs.

Hytti and O'Gorman (2004, p5), however, observed that the need for activity learning methods has been "over-interpreted" in educational institutions (primary, secondary and higher) as being synonymous with the need to run mini-businesses or virtual companies in the school curricula. They warn that too many enterprise education programmes focus solely on what skills and know-how a small business needs, and that enterprise education will fail if it is focused too narrowly on setting up businesses as part of vocational education and training rather than being integrated into the student's overall studies.

Lack of time is a major obstacle in terms of delivery and positive execution of the activity programmes. Students feel the extensive workload requirements are too severe. Teachers also feel the pressure of overload and several express frustration at not having the time to organise more school trips and visits from entrepreneurs because of the necessity to complete the syllabus.

There is a need for more specific enterprise-related teacher training in the teacher education system. Such training is necessary both to stimulate the demand for these activity programmes and to bring consistency to the quality of enterprise education provided to students across the different schools.

4.1.3 Activities at Tertiary Level

4.1.3.1 Entrepreneurship Centres

The EU BEST Expert Group's 2008 report, *Entrepreneurship in higher education, especially in non-business studies*, noted that a good way to achieve high visibility for the entrepreneurial commitment of an institution is through the provision of dedicated spaces to support students' start-up ambitions. These facilities include 'hatcheries' (pre-incubators) where students can prepare their business plans and incubators where they can prepare to trade. A key component in this institutional support is the provision of 'entrepreneurship tutors' to guide and encourage the incubator participants.

The Irish Government has allocated substantial funding in its recent National Development Plans to establish Technology Transfer Offices/Industry Liaison Offices in all HEIs and to equip them with campus incubation facilities. These incubators tend to be mainly used by science and technology graduates who have identified commercial opportunities for their research results. A number of these graduates would have been encouraged to start their own business through their exposure to entrepreneurship modules while studying as undergraduates.

The NCGE/YES survey of Irish HEIs confirmed that there is a shortage of dedicated facilities provided for student entrepreneurship. Only 5 HEIs out of the 26 surveyed reported providing dedicated centres for undergraduates.

There is further comment on the Irish situation regarding the HEI provision of entrepreneurship centres in section 4.3.2.

4.1.3.2 HE Student Entrepreneurship Awards

Newstalk 106-108 fm Student Enterprise Competition

Denis O'Brien, owner and chairman of the global Digicel group and founder of the Communicorp media group, launched the annual Newstalk 106-108 fm Student Enterprise Competition back in 2006 to promote early-stage entrepreneurship among third level students in Ireland's 15 Institutes of Technology and the National College of Ireland. He continues to chair this high-profile national entrepreneurship competition which attracts over 1,300 students annually

Now in its fifth year, the competition is promoted by Newstalk 106-108 fm in association with The Irish Times. Its objectives are to give participants a practical understanding of business management and to promote early-stage entrepreneurship among third level students.

The strength of the competition is that it affords students the opportunity to work together outside their normal college environment and allows participants to put into practice the knowledge they have gained from their studies.

Using a four round structure from September to February, the competition uses a case study format and participating teams are asked to research the company background, define the problem, brainstorm feasible solutions and develop an action plan.

A team from Dublin Institute of Technology won the 2010/2011 national final, beating off three other finalist teams - IT Tralee, Dundalk IT, and Tipperary Institute who were the winners of the 2009/2010 competition. The four finalist teams were given a case study based on a real-life business scenario for which they had 3 hours to devise a detailed solution. Each team was then given 30 minutes to present their business plan to a panel of expert judges.

For the 2001-2011 competition the newly published ACE Book of Irish Case Studies 2011 was used to amplify the local context of the studied business scenarios.

Enterprise Ireland Student Enterprise Awards

The Enterprise Ireland Student Enterprise Awards is a all-island entrepreneurship competition sponsored jointly by Enterprise Ireland, Invest Northern Ireland and Cruickshanks Intellectual Property Attorneys. Established back in 1944 it was designed to encourage innovation, promote enterprise and foster a spirit of entrepreneurship among third level students. The scheme is open to students from all academic disciplines and courses of study; anyone with a novel idea that he/she thinks has commercial potential can compete for the title of College Entrepreneurs of the Year and win a share in a substantial prize fund which totalled €50,000 in 2010. The fund for 2011 is €30,000, and the overall winner gets €10,000.

The Awards competition was rebranded in 2011 as 'Enterprise Ireland. Think Outside the Box Awards' by Mammoth Advertising, a brand engagement agency who claim that the refreshed image will breathe new life into the competition and that their new strategy will help it reach a broader audience.

Students are encouraged to team up with their colleagues and friends from other faculties to 'think outside the box', to innovate and collaborate to come up with business proposals that will help them explore their ideas and their appetite for going into business for themselves. The priority is to get students thinking now about starting their own business as a viable career option once they graduate.

The campaign launching the competition used many modern channels to reach the students and make sure they got every encouragement and support to develop viable business plans. This included a web site, Facebook page, You Tube and pod casts — reaching out to students in the world that they know best. The Facebook page will feature a team-up icon, so they can link with other students from their college interested in entering the competition. They can also use Facebook and twitter to talk to students who have participated in previous student enterprise programmes and get their advice. It's all about sharing ideas and experiences so that they can get the best from their combined talents

In-house College Enterprise awards

Several HEIs hold their own in-house College Enterprise awards:

- **UCC Entrepreneurial and Social Society.**
- **DIT Inventor Competition** — organised as part of DCEB/DIT Hothouse ‘Be Inspired. Be an Entrepreneur’ series, the competition is open to all staff and students across DIT with prizes worth €2500.
- **DIT Bolton Trust Student Enterprise Competition** — this Enterprise Competition is in its 17th year and is the largest third level institute competition of its kind in the country with a total prize valued at €15,000 including 6 months free office support in the Bolton Trust Incubator in the Docklands. In 2010 over 85 teams applied with business plans submitted from across many different programmes including Retail & Service Management, Business & Management, Product Design and International Business and Languages.
- **Cork Institute of Technology Prize for Innovation** — a competition that awards cash prizes to those whose inventions and business ideas are judged most creative, novel, innovative, and likely to succeed in the marketplace. The competition is open to all departments within the Institute. The aim of the competition is to create an entrepreneurial climate within the institute and to encourage staff and students to take the first step in furthering innovations or business ideas that they may have. The competition gives students an insight into putting a business plan together and the different areas that must be examined including
 - potential markets;
 - sales projections;
 - employment potential;
 - set-up costs.Workshops are held during the year to help the participants put their business plans together and students are encouraged to use projects that form part of their coursework as their application. The teaching staff has endorsed the competition as it gives students an incentive to put extra effort into their project work
- **The NUIM Student Entrepreneur Competition** — set up in 2008, it is open to both undergraduate and postgraduate students from all disciplines (there is a good mix between arts and business in the finals every year).
- **NovaUCD 2010 Innovation Award [UCD Nova]** — established in 2004 to highlight UCD’s commitment to innovation. The Award is presented annually to an individual, company or organisation in recognition of excellence in, contribution or commitment to innovation or in recognition of success achieved in the commercialisation of UCD research or other intellectual activity.
- **Student Synergy Awards** — set up by the Institute of Technology Tallaght (ITT Dublin) in 2008 at the prompting of the South Dublin County Enterprise Board

to foster creativity and innovation in budding entrepreneurs among the entire student body at the institution. Students from any discipline in ITT Dublin are invited to come up with inventive business ideas and to devise a business plan outlining the development process for their proposed product or service with thousands of euros in cash prizes on offer to budding entrepreneurs with the best ideas.

An expert panel, made up of representatives from ITT Dublin, The South Dublin County Enterprise Board, Cruickshank Intellectual Property Attorneys and external industry experts provide feedback and support to students throughout the competition process.

4.1.3.3 *Entrepreneurship Societies and Clubs*

University enterprise clubs and societies form an integral part of the education experience in entrepreneurial HEIs. Being peer-to-peer fora they have a unique capacity to galvanise enthusiasm for the entrepreneurial mindset among young students from all disciplines anxious to explore new outlooks on their world.

An important strength lies in their ability to plug into the greater national and even international network of entrepreneurship societies. This allows students to get an intimate sense of the vast global entrepreneurial energy and also perhaps of their future global competition.

Some commentators contrast the cross-discipline and networking propensities of student societies with the silo mentality of institutional management and believe this bottom-up momentum may be the key to embedding EE in HEIs. They cite the National Consortium of University Entrepreneurs (NACUE) in the UK as an exemplar. NACUE was founded in December 2008 during a meeting of twelve university enterprise society leaders. In the course of just two years it has grown into a vibrant support group that not only represents and promotes entrepreneurship societies but now even provides advice, material and training programmes to entrepreneurship educators.

Typical entrepreneurship society activities include

- hosting of in-college enterprise competitions and exchange of resources for national competitions;
- informal addresses by entrepreneurship faculty staff;
- guest speaker series giving members opportunities for social interaction with celebrity entrepreneurs;
- educational trips to entrepreneurial sites.

About half of the Irish HEIs host societies that cater for the entrepreneurship interests of students (some 50% are dedicated entrepreneurship clubs, the other half are not differentiated from the more general business society mission):

- Trinity Entrepreneurial Society (TES), TCD

- Entrepreneurship Society (Esoc), UCC
- Enterprise Society, DCU
- Business and Entrepreneur Society, UL
- Enterprise and Innovation Society, CIT
- Business Society, NCI
- Entrepreneurship Interns, DKIT
- Business and Marketing Society (BAM), DIT
- Business Studies Society, AIT
- Business Society, WIT
- Business Society (BizSoc), NUIG.

4.2 Teacher training and practical support

4.2.1 Continuing Professional Development; Innovative pedagogical methods and tools

Continuing Professional Development (CPD)

In-service teacher education has greatly expanded since the early 1990s and today the great majority of primary and secondary teachers participate in some form of CPD. Significant numbers also undertake long-duration certificated courses, on a part-time basis, largely at their own expense.

An in-career Development Unit (ICDU) was first established within the Department of Education and Skills in 1994. It was the main co-ordinating and decision-making body regarding state supported in-service provision. The Unit has been superseded in the Department by the Teacher Education Section (TES).

Established in 2004, TES seeks to promote and support teacher education as a continuum from initial teacher education, through induction to continuing in-service professional development (the 3 “Is”). In doing so TES seeks the maximum involvement of teacher and managerial bodies, the NCCA, the Education Centres and other relevant organisations.

TES funds the Professional Development Service for Teachers (PDST), a support organisation for primary and second level teachers operating in multi-disciplinary teams on a regional basis. PDST works in close co-operation with the nationwide network of statutory Education Centres (21 full-time and 9 part-time) as key partners in the provision of teacher CPD. These Centres host the national programmes of curriculum reform and the support services which work on a range of issues relating to teaching and learning.

A range of other agencies offer CPD programmes of various types. These include teacher unions and school management/trustee bodies such as the Joint Managerial

Body (JMB), the Irish Vocational Education Association (IVEA), the Association of Comprehensive and Community Schools (ACCS), National organisations of school principals — the National Association of Principals and Deputy Principals (NAPD) and the Irish Primary Principals Network (IPPN). At post-primary level subject associations have been active in CPD activities for their members, e.g. the Business Studies Teachers Association (BSTAI).

There is a great range of curriculum variation in the types of CPD, in line with the needs of a fast-changing education system. School curriculum reform has been, and continues to be a core concern of the professional development activities which are provided.

The incorporation of ICT in teaching, learning and administration of schools has been an important government concern over recent years. Significant investment has been made in equipping schools for ICT purposes, and a range of short, medium and long-term CPD courses have been made available to teachers by a variety of providers. A notable programme in ICT was the School Integration Project (SIP), which was organised in 228 schools and 48 school clusters, primary and post-primary, under the aegis of the NCTE.

The duration of CPD courses varies a great deal linked to the theme, purpose and outcomes of the provision. Many courses are of relatively short duration, one-day, three-day, one week. Others are conducted over a longer period, and can sometimes be staggered over time.

Certificated courses in colleges and universities, by their nature, are of long duration, the majority being of one or two years. These courses allow teachers to develop a specialisation. Graduate teachers frequently become providers/facilitators of in-service activities for their own colleagues. As well as offering certificated in-career development courses, the universities and colleges of education also provide various shorter, non-certificate courses, and some engage in research and development courses with clusters of schools in their vicinity, with a strong professional development dimension. Staff from these institutions also contribute to the CPD activities of schools and other educational organisations.

Evaluation instruments form part of all Department-supported courses and CPD courses are monitored accordingly. On occasion, inspectors visit courses to contribute to their support and provide feedback where appropriate.

Under the Education Act, 1998, which legislated for CPD in five sections dealing with the functions of the Minister for Education and Science (Part I, 7.), Schools (Part II, 9) Inspectorate (Part VII, 41), the school is required to make resources available for staff development needs. A function of the Inspectorate is to “... *advise teachers and boards of management in respect of the performance of their duties and, in particular, assist teachers in employing improved methods of teaching and conducting classes.*” The principal is required, with the support of the staff and board of management, to provide a school environment that promotes professional development of the teachers. The NCCA is obliged “*to review the in-service training needs of teachers ..., and to advise the Minister in relation to those needs.*”

New Pedagogics for EE

The particular pedagogics required for authentic EE are particularly well documented internationally by working groups in the EU and OECD. EE experts such as Alan Gibb and David Kirby have elaborated radical but well regarded methodologies.

In Ireland the NCCA, Colleges of Education and Education Centres have been active in promoting improvements in the general pedagogical performance in primary and secondary education in tandem with the ongoing review of the curricula.

The challenge to integrating the new framework of ‘key skills’ is in providing an opportunity for a serious overhaul of teaching practices.

The Baily report has surveyed primary teachers and found the most popular pedagogies they employed in EE were:

Table 4.3: Most popular pedagogies employed in EE

Pedagogy	%
Enterprise related group work and presentations	26
Enterprise activities on the internet	4
Expert visits to the school	26
Visits/excursions to enterprise	37
Enterprise related ‘case studies’	11
Enterprise simulations and role play	7
Establishing and managing a ‘real’ enterprise	37
Enterprise related games and competitions	19

At HE level, studies such as Cooney (2008), ACE (2009) and Fenton and Barry (2010) have much to say on the inadequacies of current EE pedagogy.

Fenton and Barry reported the following EE approaches at graduate and postgraduate levels (see Table 4.4).

Table 4.4: Approaches to Entrepreneurship Education

Approaches to Entrepreneurship Education	Undergraduate Level	Postgraduate Level
Entrepreneurship Modules	•	•
Feasibility Studies	•	•
Business Plan Competitions	•	•
Case Studies	•	•
Guest Lecturers	•	•
Avatars — Simulated Enterprises	•	•
Campus Incubators		•
Enterprise Boot Camps	•	
Placement in SMEs	•	
Enterprise Platform Programme		•
Links with Graduate Entrepreneurs	•	•
Consulting with SMEs	•	
Links with Enterprise Development Agencies	•	•
Enterprise Clinics with Enterprise Boards	•	•
Blended Learning Modules		•
Links with Industrial Liaison Office	Limited	Limited

But this menu of approaches is treated in a very a la carte manner by individual HEIs rather than in a holistic reinforcing fashion.

ACE found that in HEIs lectures were still the predominant tool, though there were instances of more innovative methodologies being employed such as shown in the Table below.

Table 4.5: Types of pedagogic activities currently undertaken in HEIs

Type of activity	Examples of activity
In-curricula	<ul style="list-style-type: none"> • Guest speakers and lecturers • Academic modules or partial modules • In-curricular project work with or without a multidisciplinary focus • Industry placement • Business game (i.e. new venture simulation)
Extra curricula	<ul style="list-style-type: none"> • Entrepreneurs Society or Forum • Commercialisation and Mentoring Programmes • Enterprise Week and Business Week • Sabbatical exchanges for academics • Workshops and Blue Sky Days
Business Plan and Competition Based	<ul style="list-style-type: none"> • Enterprise Ireland Competition • Newstalk Student Competition • Involvement of Irish Marketing Institute • AIB Innovation Fund • General exhibitions, and local initiatives

Since there was no recognised body for awarding national excellence in the design and delivery of best practice in entrepreneurship education, the ACE initiative

developed a customised national Train the Trainers programme in collaboration with international partners.

This programme was loosely structured around four key themes:

- International Trends and Practicalities in Entrepreneurship Education
- Creating the Entrepreneurial Graduate
- Pedagogies for enterprise education — developing a practical toolkit
- Empowering the enterprise educator.

4.2.2 Incentives available to motivate teachers

Surveys on EE at primary and second level invariably come up against curriculum overload and teacher demotivation as major barriers. This stems from the fact that EE is still not entirely integrated into the curricula which in turn stems from the fact that there is still no clearly articulated Irish EE policy. A not inconsiderable portion of EE activities is conducted outside the time-table and relies on the goodwill of the teachers.

Birdthistle has noted of the demotivation of both students and teachers of the LCVF programme at the lack of reward for their efforts. Baily's research found that 76.14% of teachers viewed 'Lack of time' as a very strong barrier to the implementation of EE in primary schools.

It is possible that some of the problem can be put down to inadequate training.

The EU (2004) Best Expert Group report, *Education for Entrepreneurship: Making progress in promoting entrepreneurial attitudes and skills through Primary and Secondary education*, concluded that changing the national curriculum is not seen in most countries as the main problem. Priority should be given to providing incentives, and specific training to teachers.

But, at HE level, provision of CPD may not be a sufficient solution. Here the major barrier is lack of career prospects for EE educators.

The EU (2008), Best Expert Group report, *Entrepreneurship in higher education, especially in non-business studies*, noted that it was currently difficult to build a career in entrepreneurship, as research remains the main criterion for promotion. Accordingly it found very little offered by HEIs in terms of incentives to motivate and reward teachers for getting involved in entrepreneurial teaching and activities with students.

Likewise the other EU (2008) report, *Survey of Entrepreneurship in Higher Education in Europe. Main Report*, highlighted the lack of academic recognition.

A point being raised repeatedly in conferences, in papers, in literature and also in the in-depth interviews carried out in the context of this survey is that an important obstacle and barrier that prevents widespread involvement in entrepreneurship

education is the lack of formal recognition of academic staff for their involvement in entrepreneurship education.

It quoted an Associate professor in the Instituto Superior Tecnico, Lisbon:

“Most research units have one or two champions, who care about entrepreneurship and who see that entrepreneurship activities are of value. But many completely refuse to address matters outside research as commercialisation does not advance their careers.”

Cooney (2008) also pointed out the research stumbling block:

A further challenge facing institutions is the teaching — research conflict. Many institutions now pinpoint research and publications amongst the highest priorities for their staff, and career reward systems are increasingly built around one’s publication record. The importance placed on research and publications effectively means that less time can be afforded by individuals to teaching, particularly to programmes that are intensive in terms of their commitment outside of the classroom (e.g. experiential entrepreneurship education). It is possibly unsurprising therefore that in the UK, Botham and Mason (2007) found that some of the best entrepreneurship education is found in the less research orientated higher education institutions.

Fenton, M., Barry, A.M. and O’Connor, J. (2010) described how EE needed dynamic, enthusiastic lecturers who could instil a passion for the subject amongst their students. To get passionate EE lecturers it is clear that Ireland will need to come up with some realistic incentivisation schemes.

ACE believed that the NCGE National Enterprise Educator Awards scheme could suggest one approach. These Awards recognise excellence within enterprise education, rewarding those working as enterprise educators supporting student and graduate entrepreneurship in higher education. There are three categories of awards:

- Enterprise Educators — who are transforming the enterprise curriculum;
- Enterprise ‘Champions’ — who are supporting extra-curricular activities;
- Student Educators — who are supporting peer learning and development.

Perhaps a combination of recognition and remuneration is the way forward?

The OSLO Agenda (2006) recommended setting up staff development funds, and recognising and rewarding the involvement of teachers in activities that require an innovative pedagogy and very often also an extraordinary effort from them.

Perhaps a combination of CPD and recognition is the way forward?

4.2.3 Mobility of teachers

It is generally accepted that mobility should help to develop the necessary skills and competences for enhancing an entrepreneurship culture and attitude within HEIs.

Yet few Irish HEIs have been willing or able to take the steps necessary to achieve this objective.

The NCGE/YES survey found that only 7 Irish HEIs out of the 22 surveyed offered sabbaticals to their staff.

The EU Best Procedure Expert Group (2008), *Entrepreneurship in higher education, especially in non-business studies*, found that the degree of mobility of teachers and researchers between HEIs and enterprise was in general very low, and that this practice was not encouraged. There were even disincentives in some instances, where lecturers were banned from taking part in external commercial activities. Ireland was cited as a case in point.

The EU report noted that, in practice, only few experienced entrepreneurs succeed in shifting to colleges/universities. They usually have to accept a lower income, and the route to a permanent position is long at universities. In general terms, there is very little in the way of incentives. HEIs have yet to openly accept entrepreneurial experience as a valid basis for senior teaching positions, especially at professorial level.

From the other direction, only few experienced teachers and researchers succeed in making a complete shift of career to the world of business. Teachers moving into business are likely to do so because of the inability or inappropriateness of institutions to meet individuals' aspirations.

One route forward here would be to increase the number of part-time positions, such as external lecturer and assistant professor positions. Another is to create a new category of positions at universities/colleges for well-educated academic staff with substantial entrepreneurial and business experience but perhaps limited research experience.

Both communities could do more to increase mobility, but some incentive to do so is likely to be required to stimulate action.

Higher education institutions can offer dedicated sabbaticals and secondments in enterprises and/or for entrepreneurial development, and appoint professors based on experience of entrepreneurship rather than research achievement.

Equally, businesses can offer senior positions for academics on their boards as non-executive directors or within their management team as an adviser/consultant.

The Hunt Report (2011) in its call for an engagement with the wider community urged HEIs to encourage greater inward and outward mobility of staff and students between higher education institutions, business, industry, the professions and wider community.

But delivering mobility has to overcome significant obstacles, particularly remuneration issues, as the OECD (2005) report, *Teachers Matter*, explained.

OECD *Teachers Matter*

In a major international analysis of trends and developments in the teacher

workforce in 25 countries, the OECD (2005) *Teachers Matter* report found a relatively low rate of teacher mobility within countries among schools and educational jurisdictions. While this can lead to schools having stable staffing, there are concerns that it can inhibit the introduction of fresh ideas and skills into schools.

Mobility between teaching and other occupations: Entering the teaching profession with professional experience outside education is still a fairly limited phenomenon. The major exception to this is in vocational education where experience in another profession is often a prerequisite and there are mechanisms for people to commence teaching without necessarily having first completed teaching qualifications.

The report noted that in most countries, the current incentive structure does not encourage mobility between education and other sectors of activity. In particular, the recognition of the qualifications, seniority and skills acquired in sectors other than education is limited.

In most countries there also seems to be little scope for movement in the other direction — there are few opportunities for teachers to spend time working outside of education as a structured part of their career development.

Part of the explanation lies in the benefits provided by career-based public service systems, and regulations which restrict recognition of external job experience for salaries and pension benefits. Greater portability of pension benefits among the public and private sectors would assist considerably in this regard. In addition, teaching qualifications that are structured to signal employability to other employers would give scope for a greater movement from education to other sectors, more easily adapting the system to periods of excess supply of teachers and permitting exchanges with other economic sectors with potential benefits for education.

4.3 Support activities for entrepreneurship education

4.3.1 National and regional platforms of available programs, projects and materials

Primary Level

The curriculum load at primary and secondary level means that teachers have little time to allocate to the development of EE resources and they depend on external assistance for a stream of new teaching material.

Bí Gnóthach Enterprise Programme (BG)

At primary level the *Bí Gnóthach Enterprise Programme (BG)* is one such external resource, developed by the Curriculum Development Unit of Mary Immaculate College, University of Limerick, in association with the CEBs. BG is a cross-curricular EE programme designed so that it can be integrated effectively into many subject areas of the curriculum.

BG is founded on the key principles of the primary curriculum, the centrality of the child as learner, the importance of active participatory approaches and the necessity for skills development. There is an emphasis on teamwork and interpersonal skills. BG is aimed at 4th, 5th and 6th classes and introduces students to many aspects of setting up and running an enterprise while also learning about the world of work.

The programme includes a video and resource pack with teacher's notes and activity sheets. The video addresses the advantages and challenges of enterprise while exploring many of its principles, including risk-taking and advertising.

The BG programme has been most successful in local regions where the County Enterprise Board sponsored EE Development Officers to visit the schools to promote the programme and train teachers in its methodology.

Junior Achievement Ireland (JAI)

A second useful source of resource material for primary schools is Junior Achievement Ireland, established in 1995.

Primary school programmes are designed for each primary age group and are sequential, with each programme building on the concepts introduced in the previous programme. These structured programmes use hands-on activities to introduce enterprise to the classroom and give children an awareness of the job opportunities available to them.

JAI has created successful partnerships with leading business organisations in the private sector. All Junior Achievement programmes are taught by business volunteers recruited from supporting organisations who are fully trained before they commence their programme.

Using stories, visual aids, construction kits and other student-friendly resources, the volunteers help students to understand and value the socio-techno-economic world that surrounds them. Topics covered include the role of families in the local economy, where the local shops get their goods from, the contribution of science and technology to social and economic life, and the social responsibilities and economic opportunities within a community.

Junior Entrepreneur Programme (JEP) in Kerry region

A third external resource provider is the Junior Entrepreneur Programme (JEP), a new pilot programme for primary school pupils in the Kerry region. It was launched in February 2011 by the founders of the very successful Young Entrepreneur Programme (described below) who teamed up with Mary Immaculate College and Kerry County Enterprise Board.

The JEP, in conjunction with the Primary curriculum, aims to develop the social, emotional and cognitive skills of the children as well as to promote self-confidence and reward initiation. Students will develop skills such as presentation, writing, drawing, technical skills, dealing with money and storytelling during the ten week period. During the programme they will work in teams to research and develop their

product or service ideas and eventually sell them in their schools whereby they will learn about the cost of producing and selling a product or service.

Second level

Both the Professional Development Service for Teachers and the Education Centres publish a substantial volume of material on their web sites to assist EE teachers at second level. This is being constantly updated.

In addition there are a number of standard resource packs used extensively across the second level system:

Exploring Enterprise

The County and City Enterprise Boards, in association with the second level section of the Professional Development Service for Teachers, are involved in the development and delivery of Exploring Enterprise. This resource, which comprises a DVD with eight case studies of entrepreneurship and an accompanying 'Teacher Resource Book', is designed to enhance the teaching and learning of entrepreneurship in second level schools. The resource is aimed primarily at students participating in Enterprise Modules within Senior Cycle Programmes including Transition Year (TY), Leaving Certificate Applied (LCA), the Leaving Certificate Vocational Programme (LCVP) and students following Leaving Certificate Business.

Exploring Enterprise superseded the Enterprise Encounter programme, a highly-regarded resource originally compiled by a local teacher, Joe Keating, in association with the Blackrock Education Centre and Dun Laoghaire CEB. The Enterprise Encounter programme was updated for a national audience by the PDST's LCVP Support Team and promoted by the City and County Enterprise Boards in conjunction with the Department of Education and Skills to give students nationwide the opportunity to interact with business and to be influenced by entrepreneurs as role models.

Spirit of Enterprise

This innovative teaching and learning resource is produced by a private company, AG Education Services, and brings stories of enterprise to the classroom. The resource has been developed with the active participation of leading organisations from both the private and public sectors, and designed in close collaboration with practising teachers and advisors.

Each lesson relates to the enterprising activities of one of the participating organisations. They offer a grounding in reality designed to raise awareness and engage students in the world of business enterprise.

Spirit of Enterprise is a multi-featured resource. A hard copy presentation pack contains lessons and associated teaching materials. The resource also includes a CD and web site (www.spiritofenterprise.net). As the web site develops, additional materials will become available for download.

The resource is delivered to every second level school in the country.

Sunday Business Post 2000

Backed by the Department of Education and Skills, the purpose of the *Sunday Business Post Business 2000* resource is to illustrate key areas of the curriculum by using up-to-date business examples from organisations operating on the island of Ireland.

By experiencing how organisations manage their business and deal with everyday issues, students can gain a greater understanding of the realities of the world of business. These case studies can then be used as real examples to underpin their understanding of the various learning points in the curricula.

Now in its 15th edition it started out as an initiative of the Irish Times. The programme was originally designed to cater for LC business students but is now also being used by teachers of the LCVP as well as teachers of business courses in a variety of third-level institutions.

The Business 2000 pack is distributed to every second level school on the island of Ireland free of charge — a total of 1,150 schools with 570,000 students. It is also sent to third-level institutions.

Third Level

It has been revealed in several studies polling the views of participants on EE courses in the HE sector that there is a strong preference for local case studies. Students can identify with the role models they recognise in these cases. The ACE consortium of HEIs has responded to the lack of such material for Irish HEIs by launching the ACE (2011), *Irish Case Studies in Entrepreneurship*, in April.

4.3.2 Entrepreneurship centres for different education levels on a regional and local level

Primary and Second Level

The use of entrepreneurship centres is not a feature of primary or second level education in Ireland. Some second level competition winners have gone on to commercialise their ideas but they would have been helped on an ad hoc basis by their teacher and not as participants in a school entrepreneurship centre.

Third Level

The European Commission (2002), *Education and Training for Entrepreneurship*, Final Report of the 'Best Procedure' Expert Group defined the role of a Centre for Entrepreneurship or similar focal point. It would have the aim of spreading entrepreneurship throughout the institution. It is essential for it to have powers to liaise with all other departments and faculties within the institution. It should essentially have two roles:

- To offer entrepreneurship training in the form of single credits (ECTS), modules and entire courses, if necessary in collaboration with the economics/management departments/faculties within the institution;

- To work together with all departments and faculties (both students and academics) to help them realise and exploit any entrepreneurial potential their programmes may offer.

The European Commission (2008), *Entrepreneurship in higher education, especially in non-business studies*, noted that a high visibility of the “entrepreneurial commitment” of an institution is achieved through the presence of dedicated spaces, such as pre-incubators (“hatcheries”) or incubators, and through support for students’ start-up plans. The report suggested a rather uneven picture in Europe, with a more or less equal split between stand-alone EE courses and ones conceived as part of a wider entrepreneurial programme which included support mechanisms and services to support students’ business ideas and new company start-ups.

A useful measure would be to ensure access to “entrepreneurship tutors” for all students. These would complement the main tutor on a master’s or doctoral thesis, and offer advice as to whether there is a business perspective to the work, and if so, how to capitalise on it.

David Kirby described in *Changing the Entrepreneurship Education Paradigm* how incubators could become the classrooms of tomorrow and indicated the progression of an idea:

- Enterprise Laboratories (idea generation)
- Pre-incubators (commercial feasibility testing)
- Incubators (market entry)
- Research Park (growth and develop).

Botham & Mason described ‘hatcheries’ as facilities provided for undergraduates but these may be incorporated into incubator facilities provided for alumni and aspiring entrepreneurs from the local community. As part of their mission to support individuals interested in setting up in business, best practice hatcheries gain high profile in their HEIs and are well linked in to all enterprise activity in the institutions.

While student participants generally spend their time on business preparation such as market research, analysis of competitors and preparing a business plan, some may begin trading. From the student perspective, the hatchery facility is a low cost, low risk ‘soft’ start-up strategy. From the HEI’s perspective, it is a relatively low cost means of supporting student enterprise, though in today’s straitened circumstances there are uncertainties in many of the HEIs over future enterprise centre funding.

Entrepreneurship Centres in Ireland

The Irish Government has allocated substantial funding in its recent National Development Plans to establish Technology Transfer Offices/Industry Liaison Offices and equip all universities and institutes of technology with campus incubation facilities. This investment was recommended by policy review groups evaluating the impact of the very significant Irish investment in R&D who urged the government to provide greater supports for the commercialisation of the research results flowing

from this investment. Thus the incubators tend to be mainly used by science and technology graduates who have identified commercial opportunities for their research results.

Fenton and Barry found that graduate entrepreneurs were also attracted to the campus incubator because they were given a hot-desk facility as part of the government-funded Enterprise Platform Programme. Several of these graduates would have been encouraged to start their own business through their exposure to entrepreneurship modules while studying as undergraduates.

But the findings are less encouraging for undergraduate participation in entrepreneurship centres. The ACE (2009) survey reported a lack of student enquiries and start-ups within campus incubators. The Fenton and Barry (2010) survey of graduate entrepreneurs also found that campus incubators were not (or at best under-) utilised by undergraduate students because they were often located at a distance from undergraduate students, and many students were not aware of how to avail of the facilities.

This meant that there was an onus on both entrepreneurship lecturers and the campus incubator manager to communicate the existence of incubator facilities and services to undergraduates and to promote their use.

One of the key selling points of entrepreneurship centres is the benefits to be gained by students from networking informally and formally with graduate and practising entrepreneurs. Graduates surveyed by Fenton and Barry expressed the view that they now appreciated how campus incubators had the potential to provide a stimulating and supportive environment for student enterprise development by initiating real and practical synergies between undergraduates and postgraduates, and between the academic and enterprise communities.

The NCGE-YES survey elicited the following information on EE infrastructure in the Irish HEIs:

Table 4.6: Number of HEIs with specified Infrastructure

Facility	Number
Central office for academic enterprise/technology	15
Dedicated centre for student enterprise	5
Student incubator facilities	9
Student hot-desk/drop-in facilities	11
Campus clinics/surgeries to support enterprise	13
Student-led club/society	13
Student enterprise interns/fellowships	9
Entrepreneurs-in-residence	7

The NCGE-YES survey reveals that only 5 HEIs out of the 26 surveyed had a dedicated centre for student enterprise. Nine HEIs provided student incubator facilities; this compares with the figure of 16 HEIs providing incubation space for

Staff & Graduates and 13 HEIs offering Campus Clinics to support their projects. Eleven HEIs provided student hot-desk facilities.

4.4 Networking and co-operation

4.4.1 Links and co-operation methods between public and private sector

The EU (2001) report, *The Concrete Future Objectives of Education Systems*, pointed out that the need for schools and training institutions to relate to the world of business is now accepted. As regards training, the social partners should be involved in the organisation of training as an essential part of the process of ensuring employability.

However, local businesses are a resource in other ways as well, for example in providing a perspective on the future needs for skills in the area, as well as a potential input for learners into the way in which the business world works. Schools should also build on the contacts they have with businesses in their local environment to provide role models of successful businesses as part of their civic education curricula.

The EU (2008) Final Report of the Expert Group, *Entrepreneurship in higher education, especially in non-business studies*, recommended that promoting entrepreneurship education in the community should be part of a common and coordinated effort. Regional development agencies and university associations should provide clear directions about what contribution institutions could make to regional social and economic development strategies.

Universities should be considered as instruments of regional development. There needs to be an increasing awareness that cooperation between higher education institutions and enterprises can generate a win-win situation for both parties. Teachers and students have something to contribute to enterprises, in terms of theoretical knowledge and also through the involvement of students in innovation ideas.

A few possible elements of motivation for enterprises in embarking on cooperation and joint projects with universities are:

- to get a job done — cheaply and well
- to get expertise and advice from a tutor/professor
- to test potential students for later recruitment
- to get publicity (image building)
- to establish a channel of contact with the university, making it possible to keep track of new developments.

Situation in Ireland

In Ireland the Business community make a very significant contribution to the education system at all levels through their corporate responsibility programmes,

community investment programmes, and their general engagement in public policy dialogues.

At primary and second level, the private sector show great enthusiasm for co-operation with schools, particularly at the local level. Interactions typically include:

- Company visits
- Student work placements
- Guest lectures.

The specialist expertise of local company management can represent a valuable asset for teachers providing mini-company or venture simulation experiences, or coaching students for entrepreneurship competitions. This expertise can be identified and harnessed through the agency of the County Enterprise Boards. Companies are also pleased to be part of the sponsorship of these competitions.

At HE level, the HEA/Forfás (2007) report, *Role of the Institutes of Technology in Enterprise Development: Profiles and Emerging Findings*, gave a very comprehensive description of the potential synergies between the third level Institutes of Technology and Irish Enterprise. It outlined the scope for Enterprise-Institute Linkages and also for Collaboration between IoTs and the Enterprise Development Agencies.

The recently published Hunt Report (2011), *National Strategy for Higher Education to 2030*, elaborated on this partnership theme and made a very strong recommendation that engagement with wider society must become more firmly embedded in the mission of all higher education institutions. HEIs should:

- Encourage greater inward and outward mobility of staff and students between higher education institutions, business, industry, the professions and wider community
- Respond positively to the continuing professional development needs of the wider community to develop and deliver appropriate modules and programmes in a flexible and responsive way
- Recognise civic engagement of their students through programme accreditation, where appropriate
- Put in place structures and procedures that welcome and encourage the involvement of the wider community in a range of activities, including programme design and revision.

Activities that can be progressed in business–academic partnerships range from knowledge transfer and the creation of joint research projects, to the development and provision of education and training for employees, and problem-solving and consulting services. Employment–academic partnership can also facilitate high-quality internships and work-placements for students and can be particularly useful as a way of enabling employer feedback on graduate employability and in facilitating employer input into curriculum design and development as well as course

supply. Ireland has many advantages in terms of the good relations between higher education and enterprise at the highest levels.

In many cases, higher education institutions have developed close relations with business and industry. This is not universally the case and submissions from representatives of business and enterprise to the HE Strategy Group suggested that higher education institutions could be more dynamic and coherent in their approach to collaboration.

REAP

The Roadmap for Employment-Academic Partnership (REAP) project, funded through the Higher Education Authority (HEA) Strategic Innovation Fund Cycle 2 is a very good example of the efforts being made by some HEIs. The REAP project is led by Cork Institute of Technology (CIT) and includes Athlone Institute of Technology, Dublin Institute of Technology, Institute of Technology, Sligo, Institute of Technology Tallaght, National University of Ireland Galway, University College Cork and Waterford Institute of Technology as partners.

The project aims to develop a model and roadmap for partnership and engagement between HEIs and employers and enterprises. The partnership concept is extended to include and value all forms of interaction including learning, research and development and to recognise that the various engagement activities can be interrelated and built upon.

By exploring existing examples of good practice throughout the project consortium and identifying enablers and barriers, a toolkit will be developed to facilitate engagement across the spectrum of potential partnership activities. The impact will be twofold — both HEIs and enterprises will be encouraged to seek out opportunities to engage and to identify any barriers to engagement within their systems and processes.

Through the REAP project it is intended that enterprises will view HEIs as key service providers and strategic partners. Some of the literature on partnership reports barriers in terms of perceived inaccessibility and inflexibility of the HEI in dealing with enterprise needs.

However, the experience of successful partnerships, reviewed through the project, has provided ample evidence that these barriers can be overcome. The preliminary work of the REAP project consortium has led to a consideration of how HEIs organise themselves to support and develop their external relationships.

A 2010 REAP Conference organised by CIT and DIT, Partnerships-for-Progress, yielded some very thought-provoking papers on the potential synergies.

<http://reap.ie/site/wp-content/uploads/REAP-Conference-final-brochure1.pdf>

4.4.2 Involvement of private companies and business people in entrepreneurship education

Real credibility in EE depends on close contacts with enterprise, and this condition is magnified as the student progresses up through the education levels. Both the education institutions and the local enterprises in Ireland have been active in establishing useful linkages, though partnership is more advanced in some institutions and in some regions.

Business can assist the EE project of schools and colleges in many vital ways including offering company visits, student work placements and providing guest lectures. Business leaders can give valuable advice on curriculum design and contribute to local case study resources.

The Final Report of the 'Best Procedure' Expert Group, European Commission (2008), *Entrepreneurship in higher education, especially in non-business studies*, noted how Non Governmental Organisations were promoting entrepreneurship programmes in schools all over Europe. It discussed support measures to facilitate the application of these programmes and embed them further in the curricula.

The 2006 OSLO Agenda had several recommendations for HE-Enterprise partnership:

- Encourage the creation of learning communities with the mission of fostering entrepreneurial mindsets, by building links between the public and the private sector, involving schools, academia and businesses, as well as relevant intermediary organisations. In particular, the role of those intermediary organisations dedicated to the dissemination of entrepreneurship activities within schools and universities, and to building links between education and the business world, should be better recognised.
- Encourage the involvement of private partners in education for entrepreneurship, through funding or contributions in kind. This involvement should be seen by firms as a long-term investment, and as an aspect of their corporate social responsibility.
- Businesses should consider donating at least a tiny part of the working time of staff to participation in activities within schools and universities. In fact, mentoring and coaching from people with business experience are a basic element in all entrepreneurship training.
- Develop or support research on how employers can be better engaged in school/university education. The business community needs incentives to more fully engage with educational institutions. Opportunities for mutual benefit can work, but are often not recognised as verifiable and appropriate staff activities.
- Help develop the pedagogical abilities of entrepreneurs and business people, in order to make their participation to activities in the classroom more effective. This task could be usefully performed by those non-profit organisations dedicated to linking schools and businesses, and by business organisations.

- The Final Report of the 'Best Procedure' Expert Group, European Commission (2008), *Entrepreneurship in higher education, especially in non-business studies*, recommended that business associations should encourage their members to get involved in teaching entrepreneurship within educational establishments, as well as in taking an active role in organising business plan competitions and in providing support for getting the winning ideas off the ground. Industry should provide sponsorship and funding for high-tech spin-offs created by students within incubators or as a result of business plan competitions.

The report noted that successful entrepreneurs who dedicate time and effort to teaching normally do so out of a sense of contribution to society, and as part of their social responsibility. A good way of encouraging their involvement in education is by demonstrating in tangible ways a clear appreciation of the work done by them, for instance by giving them public recognition and awards.

Situation in Ireland

There is no shortage of examples of good practice in collaboration between the education sector and the enterprise sector to support entrepreneurship education in Ireland.

Individual educators in schools and colleges throughout the country routinely make use of social contacts with personnel from enterprises in their areas to elicit valuable EE supports across the spectrum from company visits and student work placements to guest lectures and resources provision.

Private sector EE programmes such as Junior Achievement Ireland enjoy the wholehearted patronage and support of some of the most prestigious foreign-owned and indigenous companies in the country.

Many individual Irish entrepreneurs have shown great civic spirit in the effort and time they devote to effective EE promotions. Two notable examples are Denis O'Brien, owner and chairman of the international Digicel group, and Jerry Kennelly, a former Ernst & Young Entrepreneur of the Year who has just embarked on his third new enterprise, Tweak.com. Denis O'Brien launched the annual Newstalk 106-108 fm Student Enterprise Competition back in 2006 to promote early-stage entrepreneurship among third level students in Ireland's 15 Institutes of Technology and the National College of Ireland. This is a high-profile national entrepreneurship competition attracting over 1,300 students annually. Jerry Kennelly is a key member of the consortium behind the very successful Young Entrepreneur Programme (YEP) aimed at students in primary, secondary and tertiary level in County Kerry. He is also the animating spirit of the Endeavour Programme, one of Ireland's leading fast-track mentoring support programmes for business start-ups. The Newstalk competition and the YEP have been described in more detail earlier in this chapter.

While individual entrepreneurs and companies have been very accessible to educators Ireland lacks a formal compact between industry associations and the education system that articulates clear guidelines on how they should collaborate to promote entrepreneurship education.

It should be pointed out that the industry associations do have representatives on the boards of the principal national skills and education bodies such as the Expert Group for Future Skills Needs and NACA where their advice is highly regarded. Moreover, the Irish Business and Employers Confederation has made influential submissions to the many education policy review groups mustered over the past two decades, most recently to the National Strategy for Higher Education Review Group in June 2009 when it put forward a number of recommendations on how to deepen the partnership between HEIs and Business. Such expressions of collaborative intent provide a platform on which to lay out a formal agreement on how the two partners might jointly progress EE at all three levels of the education system.

The ACE (2009) Report noted that Irish HEIs still face formidable challenges in bridging the gap between academics and industry. While private funding and active engagement with entrepreneurs was common practice within the entrepreneurial University culture of the US, the Irish tertiary education sector's engagement with industry is neither widespread nor intensive despite several policy initiatives to promote such collaboration.

For their part, time-constrained Irish business people see limited immediate payback from active participation in the education process. This is symptomatic of the European tradition of limited private sector involvement in education due to the failure of industry practitioners to appreciate the relevance of quality education provision to the long-term interests of their sector.

To bridge the gap will require a substantial culture change. The third-level academic community are increasingly recognising the reality that entrepreneurship education cannot be solely academic in nature, but they have not kept industry informed about the evolving academic agenda.

Academia must recognise the fact that industry is one of the major ultimate customers for the human capital and skills that the education system is developing. As a key stakeholder, industry must be invited to offer a continual input into curricula design and assessment techniques.

As an example of good practice in consulting industry, the ACE 2008 survey canvassed local industry managers for their views on the skills required by graduate recruits in order to develop Irish business. The three highest ranked skills identified were communication skills, innovative and creative thinking, and problem-solving skills. The skills and attributes ranked most lowly by enterprise managers were team-working and risk-taking.

ACE also discussed effective pedagogic approaches with the industry respondents. The business leaders were asked to suggest ways in which enterprise could best engage with HEIs to bolster the entrepreneurial presentation to students. The most highly ranked responses were real-life projects, venture simulation/mini-company experiences, student work placements, guest lectures and company visits. This suggested that entrepreneurs valued experiential learning that would enable the student to experience the real-world entrepreneurial process.

Industry respondents were not inclined to get involved in providing case-study material. Whilst this may have been due to concerns surrounding the release of sensitive information, ACE thought the finding should be further explored as it may indicate an inflated regard for case-study teaching which had been shown to be the second most widely-used approach in entrepreneurship teaching in Ireland.

4.5 Communication of Entrepreneurship Education Activities

4.5.1 Collating examples of good practices and bottlenecks

Ireland lacks full and formal structures — either at the ‘governmental policy/administrative’ or ‘operational’ levels — (such as those outlined below) to organise and facilitate the collection of good practice examples of EE:

- **The Entrepreneurship Alliance UK:** The Institute for Small Business and Entrepreneurship, Enterprise Educators UK and the National Consortium of University Entrepreneurs are the three leading independent membership-based organisations which promote and support enterprise education and entrepreneurship development in the UK. Collectively, these organisations represent academic researchers, educators, undergraduate and postgraduate students and those who provide practical support for enterprise development in Higher and, in the future, Further Education.
- The **Institute for Small Business and Entrepreneurship (ISBE)** is the UK’s largest and most well established network for individuals and organisations involved in:
 - Small business and entrepreneurship research
 - Enterprise support and advice
 - Entrepreneurship education
 - Formulation, delivery and evaluation of policy in this area.

With over 500 members, a network of close to 4,000 and a strong and relevant board, ISBE is at the forefront of developments in this sector

- **Enterprise Educators UK (EEUK):** Enterprise Educators UK is the national network for enterprise educators. The network includes over 500 enterprise educators and practitioners, mainly from UK Higher Education Institutions. It aims to:
 - support its members to increase the scale, scope and effectiveness of enterprise and entrepreneurship education
 - produce Newsletter
 - organise workshops
 - publish an EE Manifesto
 - host International Entrepreneurship Educators Conference [IEEC]
 - organise IEEP Programme (run by NCGE and Educators UK).

- **National Consortium of University Entrepreneurs (NACUE):** The National Consortium of University Entrepreneurs (NACUE) is a fast-paced, grassroots organisation that stimulates university enterprise by supporting, connecting and representing enterprise societies, enterprising students and student entrepreneurs in Universities across the UK.

NACUE aims to:

- support the sustainable development of university enterprise societies and student ventures;
 - inspire, educate and train university enterprise society leaders and student entrepreneurs;
 - connect university enterprise leaders and student entrepreneurs online and in person; and,
 - advocate for the increased support of student-led enterprise initiatives at individual universities and at a national level.
- **National Council for Graduate Entrepreneurship (NCGE):** NCGE was formed in 2004 with the aim of raising the profile of entrepreneurship and the option of starting your own business as a career choice amongst students and graduates. By understanding the circumstances in which graduate entrepreneurship can flourish, NCGE's goal is to influence, and inspire, an increase in the number of students and graduates who give serious thought to self-employment or business start-up.

Targets:

- Long term cultural change in UK Universities
- Shape the institutional environment for enterprise and entrepreneurship and embed good practice
- Increase the number of enterprising graduate businesses
- Inform national and regional policies that affect enterprise and entrepreneurship in Universities

A Higher Education environment driven by:

- Entrepreneurial Institutions
- Entrepreneurial Staff
- Entrepreneurial Stakeholder Partnerships
- Entrepreneurial Opportunities

Leading to:

- Entrepreneurial Graduates
- Entrepreneurial Lives and Careers
- Entrepreneurial Organisations and Communities.

Situation in Ireland

The lack of similar organisations in Ireland means that there is no ‘system’ for the development of ‘good practice’ criteria and/or cases. The lack of overarching policy frameworks that would incorporate the interests and activities of the Departments of Enterprise and Education respectively affect EE at the primary and secondary levels in particular. The corresponding lack of integrated structures at tertiary level, in spite of the Accelerating Campus Entrepreneurship (ACE) initiative and other worthwhile efforts, means that both ‘good and bad news’ stories are relatively under-appreciated or ignored in both the institutions themselves as well as in the media.

4.5.2 Disseminating success stories — examples

This sub-section provides examples of good practice in disseminating entrepreneurship education success stories.

Irish Network of Teachers and Researchers in Entrepreneurship

- INTRE is a formal network of teachers and researchers involved in the teaching of entrepreneurship on the island of Ireland. A regular email newsletter has been established which offers information about the latest Irish entrepreneurship books, competitions, journals, conferences, calls for research proposals, and sources of funding. Among the many initiatives already undertaken by INTRE have been two case study competitions from which two books of case studies were published, a Special Edition of the Irish Journal of Management on Entrepreneurship in Ireland, plus a series of workshops relevant to the needs of people within the network.

ACE Entrepreneur in Residence Programme

- A key element of the ACE Initiative is the development and implementation of an Entrepreneur in Residence Programme. The aim of the programme is to:
 - encourage, support and advise students interested in enterprise development
 - provide support and resources to academic staff in the delivery of entrepreneurship education
 - act as a conduit to transfer learning, skills and resources between academic schools and incubation programmes
 - make a real wealth of enterprise experience available, on an in-house basis, to students and academics alike
- The Entrepreneur in Residence promotes, develops and supports entrepreneurship at the Institute, and encourages a spirit of entrepreneurship amongst staff and students based on campus. The post is a part-time position for a pilot period of 18 months. The role demands approximately 15 hours per week. It is anticipated that the Entrepreneur in Residence will be a “retired” or “semi-retired” entrepreneur keen to encourage and develop enterprise activities within the student group. He/she will have a track record of conceiving, establishing and developing internationally traded businesses over many years. They will have recognition that business failure is a learning experience and will have an understanding of the risk/reward equation. They will be motivated by a desire to “give something back” rather than by monetary reward.
- CIT’s Entrepreneur in Residence is based at the Rubicon Centre and on the main campus and will be available to undergraduates, post grads, staff and CIT Enterprise Development Programmes. Central to the role will be further raising the awareness of entrepreneurship in general across CIT; identifying key market and technology trends and areas which are receiving substantial investment financing, as well as a series of Guest Lectures to undergraduates. The leveraging by CIT of the entrepreneurship-in-residence model, which has been highly successful in the USA, is very complementary to the vision CIT has demonstrated in its partnership with Enterprise Ireland in the highly successful Genesis start-up programme.

Student Enterprise @ DkIT First Annual Enterprise Week 2011

- Dundalk Institute of Technology (DKIT) student Enterprise Interns, Emma Brabazon and Catherine Murray, ran the week to great success. Student Enterprise at DKIT is dedicated to promoting, developing and sustaining enterprise among students in DKIT. The aim of Student Enterprises first annual Enterprise week was to help students find out more about enterprise and to encourage participation.

The teaching of entrepreneurship at undergraduate level across different disciplines and courses — Dundalk Institute of Technology

- At the DKIT, entrepreneurship as a module in its own right appears in more than twelve different courses, at Certificate, Diploma, Degree and Postgraduate levels, and is offered across five different academic departments. Courses include: Business Studies; Accounting and Finance; Community Studies; Cultural Resource Management; Engineering; Science Degree; Sports and Community Leadership; etc. This means that almost without exception, each of DKIT's 2,800+ full-time students will have the option of completing an entrepreneurship module at some point in their undergraduate studies. While the content of the entrepreneurship syllabus will vary slightly between courses and levels, the core of the module tends to remain unchanged. The undergraduate syllabus for entrepreneurship is delivered over two semesters. The first contains the knowledge-based theory, while the second focuses more on practical application including working in teams to develop a business plan for a new product or service.

5 Key findings and conclusions

5.1 Key statistics 2009–2010

Enrolment figures in Second Level Programmes

Second Level Programmes	No of Schools	No of Pupils
Transition Year	540	28,000
Leaving Certificate Vocational Programme (2 year)	510	36,537
Leaving Certificate Applied (2 year)	293	6,883

Tertiary

A survey of 26 higher education institutions in March 2011 (carried out by Tom Cooney as part of this project) found that they offered 44 full entrepreneurial education courses and 416 credit-bearing or embedded entrepreneurial modules in other courses.

Cooney 2011 Survey (26 HEIs)	Full EE Courses	EE Modules
Total	44	416

A survey of the sample population of HEIs using the NCGE/YES questionnaire found that there were 1,084 students studying for full EE awards while the numbers studying full EE and embedded modules were 6,020 and 5,488 respectively. A total of 6,540 students were engaged in EE extra-curricula activities.

The Irish Student Engagement Rate in relation to entrepreneurship education is calculated at 12.2%. The equivalent figures for the UK and EU were 16% and 24%.

NCGE-YES (22 HEIs)	Student Numbers
Full Awards	1,084
Full Modules	6,020
Embedded Modules	5,488
Extra-Curricula Activities	6,540
Total Engagement Number	19,132
Total Enrolment Number	157,369
Student Engagement Rate	12.2%

The number of start-up enterprises launched by students and graduates of the respondent HEIs amounted to 41 and 40 respectively in 2009–2010.

Start-ups by	2008–2009	2009–2010
Students	38	41
Graduates	40	40

The table below gives a breakdown in the numbers for the full awards, credit bearing modules and embedded modules offered by the respondent HEIs classified by undergraduate and postgraduate level provision.

	Undergraduate	Postgraduate
Full Awards	30	8
Credit-bearing Module	139	57
Embedded Module	124	58

Data was also sought on the respondent’s institutional policy in relation to entrepreneurship education.

Institutional policy	Number of HEIs
An explicit institutional entrepreneurship policy	9
Enterprise/entrepreneurship embedded in the mission statement	15
An entrepreneurship advisory board/council/steering group	7
Faculty-level entrepreneurship action plans	9
Dedicated institutional funding for enterprise/entrepreneurship	11
Non-research professors of enterprise/entrepreneurship	4
Support for enterprise in local communities	15

(Total number of HEIs surveyed: 22)

5.2 Key findings on entrepreneurial education in Ireland

Following our wide-ranging survey of the published documentation on the state of entrepreneurship education in Ireland, we now set out our main findings and comments:

Need for a national entrepreneurship policy and a national entrepreneurship education policy

Right across all the information sources that we surveyed, Irish entrepreneurship education was perceived as vibrant and exhibiting a wealth of local initiatives. But the flip side is that it suffers from fragmentation and uneven quality across the system. The clarion cry was for national co-ordination and coherence in EE design and provision. Our specific concern is with entrepreneurship education but EE policy and co-ordination is contingent on an articulated overarching entrepreneurship policy.

In 2007 Forfás mapped out an entrepreneurship policy for the Minister for Enterprise. That same year the GEM Ireland report (endorsed with the Ministerial Foreword) also called for a national EE policy. Progress on these matters rests between the Minister and Cabinet colleagues, including the Minister for Education.

Funding for entrepreneurship education

Lack of designated funding was reported as the single biggest obstacle to EE progress for all levels of education. At Primary and Second levels this manifested itself in lack of budget for specialist EE staff and resources in both the schools and professional development supporting organisations. At HE level the EE champions were finding it virtually impossible to secure funds from their Departments to appoint suitably experienced staff and fit out effective student entrepreneurship centres.

Definition of EE

There remains confusion over what is meant by the term ‘entrepreneurship education’ and this is militating against EE’s missionary progress into important areas of the educational landscape. Until they are better informed it is natural for people to assume the narrow definition of EE with its connotations of business start-ups and profit motivation. This can be repugnant not just to the ethos of primary and second level education but can also offend the academic ethos of ‘purists’ in HEIs. The onus is on policy-makers to promote the broad concept of an entrepreneurial mindset and its advantages in all facets of a citizen’s life.

Institutional Commitment

It is very good to have EE ‘champions’ in an institution, indeed they are indispensable catalysts in the EE process, but ‘bottom up’ efforts will never carry the day until they are blessed with the visible endorsement of Top Management. This is true at all levels of education, but is particularly vital in third level where the individual disciplines have such a degree of autonomy that only a concerted strategic campaign driven from the very top management level will sustain the collaboration required to embed EE across disciplines.

Embedding EE

This has two separate but equally important connotations. At Primary and second levels it can refer to the unresolved issue of whether or not it is more effective to provide a specific EE subject on the curricula or adopt the approach of integrating entrepreneurship skills into all subjects across curricula. At the moment the second approach holds sway and is compelling if it is successfully implemented: the students will learn to approach all of life with an entrepreneurial mindset. But the specific subject option has the advantages that student exposure to EE is more transparent; and it allows designated staff to build up a body of expertise.

An important related issue is whether EE should be made compulsory. As things stand it is possible to navigate around EE electives and emerge relatively ‘untouched’ at the end of senior cycle.

Embedding at HE level refers to the very important project of trying to ensure all students (not just those in Business & Management disciplines who historically have

been first movers) get access to EE. There are promising signs that Irish HEIs are making progress on this front, e.g. the ACE initiative, but it is not clear if they have become sufficiently independent of Business School leadership and bolt-on modules.

Pedagogics

Our report will leave the reader in absolutely no doubt of the need for specialist teaching methodologies to deliver an 'authentic' EE. Pedagogics may not quite be king but it is as important as content in EE. The conventional 'chalk and talk' will not serve: entrepreneurs need to learn not 'what to do' but 'how to do it'.

Baily found that 97% of primary teaching students had not studied EE in the education college. This lack of specific EE modules in teacher education proves an obstacle later on because the teachers lack the confidence to deliver special EE programmes such as Bí Gnóthach.

Ideally the educator in second level, and especially in third level, will have acquired personal experience of enterprise. If HEIs adopt the stratagem of inviting entrepreneurs to give lectures these practitioners must be supported by coaching in pedagogy.

It was found that a lack of networking or unwillingness to network by schools at all three levels militates against the ability to provide 'best in class' curricula, pedagogics and resource material. The failure to network is to some extent due to insufficient time and resources to 'get out and about' but there is now a wealth of material provided on the internet by organisations such as PDST and the Education Centres. The teacher associations such as the BSTAI also serve a useful role in the exchange of ideas and practice, and Education Centres can provide a valuable contact for Primary teachers.

The silo mentality is particularly evident at the HE level. ACE found a 'not invented here' syndrome when it looked at the willingness of HEIs to import good practice from outside. But even within HEIs efforts to jump-start inter-disciplinary collaboration have often stalled because of rivalries.

Curricular versus Extra-curricular

The findings indicate that EE provision breaks down fairly equally across both formal curricular programmes and extra-curricular activities (i.e. not on the curriculum but performed during school hours). This is probably a fair reflection of the composite theory and practical skills required by the entrepreneur. Surveys such as that of Baily for Primary level, Birdthistle at second level, and the ACE and Fenton studies at third level, all confirm the very valuable contribution made by the extra-curricular component. The fly in the ointment is that this component is by definition not as 'planned' and budgets can be 'pulled' in times of austerity. Extra-curricular activities are also often precariously dependent on the goodwill of a few staff.

Holistic perspective

Policy-makers and promoters of EE should be careful to adopt a holistic perspective and respect the continuum of the education system. Firstly, this is important in terms of coherence in education. Efforts such as those of the NCCA to insert a

common framework of 'key skills' in both Junior and Senior cycles at second level is a case in point. It is also important from a development point of view. The seeds of the entrepreneurial mindset should be sown in the early years of a student's life, and these can then be brought to fruition at higher stages in the education system.

An important contribution here is the EE support the HEIs can give to students at second level, e.g. DIT's support for the South Dublin CEB Student Enterprise Awards.

Entrepreneurship and Innovation

Commentators distinguish between 'normal' entrepreneurship and the 'high potential' entrepreneurship which is usually associated with innovation. Understandably policy-makers are drawn to the latter. The Small Business Forum (2006) recommended that policy should be focused on optimising the number of start-up businesses and in particular on maximising the number of start-ups aspiring to and achieving high growth. The GEM report, which can often provide the chastening counterpoint since it is in the business of reporting what actually happens, noted in 2006 that Ireland was among the leading OECD countries in terms of 'high expectation' early stage entrepreneurship; however, Ireland ranked less favourably in terms of those established entrepreneurs (businesses started before 2003) who actually grew to having twenty or more employees.

This is not in any way to suggest that policy-makers should shun the allure of the innovation route — indeed Irish policy has been highly commended for its efforts in supporting High Potential Start Ups (including university incubator provision and EPP programme in IoTs). Quite the contrary, we argue that the twin policy engines of entrepreneurship and innovation should be much closer harnessed to extract the maximum dividend. We note that a recent ACE survey found that graduate entrepreneurs in high technology disciplines were not receiving effective encouragement from their HEIs to pursue the commercial opportunities they had identified. While this particular finding was based on a small sample it is surely a signal that policy-makers need to shine a very sharp light on the entrepreneurship-innovation nexus and ensure that all possible supports are in place to harvest the fruits of our recent prodigious investment in scientific research.

Recognition

Everyone is motivated by recognition and this finding applies to the two sides of the EE interface — student and educator.

Ireland's array of student enterprise award initiatives at local and national level is impressive. However there is a strong case for consolidating these to come up with one outstanding scheme that would compare with the Young Scientist Award or the Ernst & Young Entrepreneur of the Year award. The Sean Lemass Award is a possible vehicle. At the moment it is just for second level students, but it could be expanded to cater for Primary and HE categories also.

The second part of the recognition point concerns educators. There is currently little recognition given to teachers at Primary or Second level. Some HEIs offer educator

excellence awards, e.g. the President's Award in the NUI Colleges. But we feel that a national award system should be introduced to give appropriate recognition to outstanding EE educators, similar to the National Enterprise Educator Awards in the UK. Perhaps the Lemass Award could even be extended to feature an educator category.

Incentives

The reliance on key individual 'champions' has been highlighted as a weakness at all education levels. The EU report, *Survey of Entrepreneurship in Higher Education in Europe*, characterised it as the "immature" phase of EE development. The implication is that more incentives are needed to induce more teachers to embrace an EE-related career. In second level this would happen if EE became a full subject, meaning that more HE students would choose a full entrepreneurship award course in preparation for a teaching career. At HE level the dominance of research must be balanced by establishing more top level positions as career progressions for EE educators.

Resources

EE has an insatiable appetite for resource material. By its nature it requires the latest in case examples to stimulate students. Also it has been found that local case material works best.

At Primary level, *Bí Gnóthach* works well in parts of the country where external support is available but probably needs an overhaul. There is trojan work being done by the PDST, Education Centres and Teacher Associations in routinely developing and disseminating fresh material. The PDST Exploring Enterprise pack supplied with the support of the CEBs, together with private sector offerings such as Spirit of Enterprise and Sunday Post 2000 packs are enormously influential at second level.

Enterprise Ireland and the CEBs provide inputs with up to date industry viewpoints. ACE is publishing a series of Case Studies for EE in the HEIs. There is also at this level the potential for exchange of best practice EU material and such exchange gives students a feel for global competition.

Links with Enterprise

Real credibility in EE depends on close contacts with enterprises, and this is magnified as the student progresses up through the education levels. Both the education institutions and local enterprises in Ireland have been active in establishing useful linkages, though partnership is more advanced in some institutions and regions than in others.

Business can assist the EE project of schools and colleges in many vital ways including company visits, student work placements and providing guest lectures. Business leaders can give valuable advice on curriculum design and contribute to local case study resources.

At HE level, the Hunt Report refers to the celebrated US education expert Ernest Boyer who has advocated that scholarship should look beyond research to include integration and application. Hunt made a strong recommendation that engagement

with wider society must become more firmly embedded in the mission of higher education institutions. The Report suggests that HEIs:

- Encourage greater inward and outward mobility of staff and students between higher education institutions, business, industry, the professions and wider community
- Respond positively to the continuing professional development needs of the wider community to develop and deliver appropriate modules and programmes in a flexible and responsive way
- Recognise civic engagement of their students through programme accreditation, where appropriate
- Put in place structures and procedures that welcome and encourage the involvement of the wider community in a range of activities, including programme design and revision.

5.3 Policy level findings

Based on the foregoing analysis of national, international and EU debate on and experience of entrepreneurship education (EE) at primary, secondary and tertiary levels, the following section highlights the major policy findings for this project.

There is a relative lack of high-level policy commitment to both entrepreneurship education and entrepreneurship itself in the Irish political and administrative system. Despite calls in a range of reports — from that of the Small Business Forum to the Enterprise Strategy Group and most explicitly in the Forfás report, *‘Towards Developing an Entrepreneurship Policy for Ireland,’* — no policy response, in the form of a Green or White Paper for example, has been published.

Similarly, with few exceptions and despite much public relations posturing, there is relatively little evidence of organisational and institutional commitment, particularly in the Higher Education sector, to encouraging or developing entrepreneurship teaching, learning or practice.

“There is no national framework or an articulated strategic policy for entrepreneurship education institutionally, that would support education and practice among staff and students at all levels and across all disciplines.” [ACE (2009)]

This is the result, at least in part, of limitations and barriers in Irish policy and administrative systems with regard to issues that fall outside the direct remit of a particular government department and/or other bodies at the national level (in this case both entrepreneurship and entrepreneurship education and involving the Departments of Enterprise etc. and Education etc.) and weak coordination mechanisms within and between colleges, schools and other institutions in terms of the significance and priority of enterprise education.

Such lack of coordination is both cause and reflection of the absence of centralised responsibility for entrepreneurship education nationally as well as within and between the primary, secondary and tertiary sectors.

5.1 At primary level, the role of policy and coordination is neither visible or consistent and the nature and quality of EE differs along the following lines:

- geographically (reflecting such factors as the role and quality of local Education Centres and the supports provided by the local City or County Enterprise Board)
- crucial role of school principals
- relative lack of teacher training in EE.

Ethical issues are also seen as being important at the primary level in particular, leading to a focus on creativity and self-reliance rather than entrepreneurship per se.

5.2 At secondary level, while there is a clear situation with regard to the responsibility and imprint of the Department of Education & Skills and some of its subsidiary bodies such as NCCA (manifesting itself in the significant EE elements of the Leaving Cert Vocational Programme and Leaving Cert Applied, the proposed introduction of the LC Enterprise short course in the context of the new Key Skills Framework), a number of crucial issues were indicated to the Team during the course of the project:

- lack of consistency within an overall positive experience of Transition Year and mini-companies in particular
- problems with the absence of Business Studies staff who tend to take the lead role in EE at second level
- confusion with regard to the roles of particular government departments.

Similar ethical issues to those at primary level tend to arise but are less pointed and can be addressed at school level through an appropriate emphasis on social entrepreneurship.

5.3 At tertiary level (both Further & Higher Education) the issues emerging include:

- non-inclusive cooperation/collaboration approaches (e.g. ACE) reflecting the lack of consistent strategic commitment across the 3rd level institutions
- lack of professional EE teaching and research standards across the FE and HE sectors, reflected in limited promotional opportunities and status for EE staff
- limited assistance and prototyping/incubation facilities for students against a backdrop of generally good provision for mainstream science and engineering staff.

5.4 Overall, there is a lack of Formal Networks within and between the primary, secondary and tertiary sectors and particularly between the education system and industry representative bodies. This is compensated for, to some extent

and particularly at the local and regional level, by the roles of individual firms/entrepreneurs and public bodies such as the County and City Enterprise Boards and regional authorities. Of their nature, these networking activities tend to be variable and patchy in terms of their coverage and impact.

- 5.5 There are a relatively large number of Awards and Prizes at all levels within the education system generally highlighting the importance of creativity and initiative as well as those within entrepreneurship education focusing more directly on enterprise but these are often overlapping and duplicating each other. This leads to both confusion and lacunae within the 'awards market' that need to be addressed at an overall systems level.

6 Recommendations

TMA present their recommendations on entrepreneurship education under three broad headings: A. an overarching recommendation; B. recommendations arising from the mapping analysis; C. policy recommendations.

A. Overarching recommendation

A1. Immediate publication of an Entrepreneurship Policy Statement, which should include a coherent programme for entrepreneurship education at primary, secondary and post-secondary levels

It is now essential that the South-East Regional Authority (SERA) send out an urgent call for the long-delayed publication of such a Statement, which is timely in the context of the recent changes in government and in our general economic circumstances. With regard to Entrepreneurship Education in particular, it is essential that the Statement come from both the Department of Enterprise, Jobs and Innovation and the Department of Education and Skills.

B. Entrepreneurship education — Mapping

B1. Resources should be allocated for the deployment of EE Development Officers in all CEB jurisdictions to improve the uptake of the Bí Gnóthach EE programme

It has been proven in particular CEB areas that the deployment of an EE Development Officer (EDO) can make a substantial difference to the uptake and performance of EE programmes such as Bí Gnóthach in primary schools. The teachers have a heavy workload and the external assistance can make the difference between a successful programme and no EE at all. The sense of solidarity together with the input of fresh ideas energise the teachers.

B2. Stock of Resources for Primary Level should be boosted

Our discussions with knowledgeable informants suggests to us that the stock of teaching material available as a resource for primary level EE could usefully be refreshed to keep pace with the ever-accelerating march of ICT and its impact on children's attitudes. Clever initiatives such as SERA's Generation Next project show how this task can be combined with mobilising EE thinking across the education system from primary to HE.

B3. The proposed NCCA revisions to the Junior and Senior Cycle should be accepted and appropriate resources should be allocated to ensure their expeditious implementation

The exciting NCCA curriculum changes at Junior and Senior cycles in terms

of 'key skills' and 'flexible learning profiles' (Subjects, Short courses and TY units) should be signed off by the Department of Education and Skills and resources allocated to speed their implementation. These have the potential to significantly increase the number of second level students who gain a real experience of the practical aspects of entrepreneurship.

B4. Make the LCVP Link Modules open to all senior cycle students

The LCVP link modules have tremendous attributes in terms of content, skills, methodologies and assessment, and they afford students a real enterprise experience through visits and placements. Instead of the present arrangement whereby the Link Modules are merely components of the optional LCVP subject they should be augmented and elevated to the status of a full subject in their own right and open to all students with no conditions attached.

B5. Mount an EE Portal

There are several web sites offering very useful information and resources to students and educators. Examples include those of the PDST, the Education Centres and the CEBs. We feel that the impact of all these excellent but dispersed channels could be immeasurably enhanced by migrating them to a dedicated EE one-stop-portal. It would serve as a dynamic forum for exchange of views from all EE players.

B6. Teacher education at primary and second level should include an EE module

Irrespective of the final resolution of the debate about whether or not to institute specific EE modules in primary and secondary education we believe that student teachers should be provided with a module so that they can bring a credible EE presence to the classroom.

B7. Commission a research study to determine the extent and quality of EE in the Further Education (FE) sector

We understand that all Post Leaving Certificate (PLC) courses include a work experience module as a mandatory requirement for FETAC certification. Some of these courses contain the FETAC 'Start Your Own Business (SYOB)' module. It is difficult to get an accurate measure of the number of youths involved in these courses — in its presentation of student numbers for its different courses the annual FETAC Awards Report does not differentiate between adult and youths. It would also be necessary to carry out a few selective case studies to evaluate the calibre of the EE involved in the SYOB modules.

B8. The ACE initiative and its Train the Trainers programme should be rolled out to encompass all HEIs

The ACE initiative has made a significant contribution to the 'framework conditions' supporting EE delivery in the partner institutions. The key achievement has been ACE's success in instigating a very visible commitment from the top management of each institution to the EE mission in their institution. The enhanced interdisciplinary co-operation mobilised by ACE was a second vital achievement in facilitating the embedding of EE in non-business disciplines. The ACE Train the Trainers programme is exactly the sort of programme required in other HEIs to upgrade their pedagogical skills.

B9. A quantum of Department of Education and Skills funding should be ringfenced for EE

Our findings have confirmed that the absence of a secure and dedicated line of funding threatens the fledgling EE project at all levels of the education system where it continues to be overly reliant on the supererogatory efforts of ‘champions’.

Given the manifest workload of teachers one suggestion is that a portion of this ringfenced money could be channelled through the CEBs to augment their supports that have been proven to enhance the EE provision. Such inter-departmental co-operation initiatives would signal the serious intent of government to promote Irish entrepreneurship to world-class standard alongside its world-class research. This would serve the government’s stated objective to strike a better policy balance between investment in knowledge exploration and knowledge application.

B10. Launch a grand EE Awards event

It is clearly evident that in the area of EE there are tremendous efforts being put forth by students, educators, schools and external supporters from the public and private sectors. The corollary is that people can become demotivated and frustrated if they do not get the recognition their unstinting efforts deserve. We believe that a grand awards event, celebrating together these exponents of EE excellence, would be a very effective motivating tool and would also generate welcome public interest in EE.

B11. EE Initiatives should include thoroughgoing impact assessment methodology

International experience has shown that policy support and resource allocation tend to follow on from the establishment of a robust evidence base. There is a dearth of Irish evaluation data on EE impact. We believe that research projects on longitudinal studies should be commissioned by a joint Department of Education and Department of Enterprise EE evaluation committee. The imminent introduction of the NCCA curriculum revisions in senior cycle provides an excellent opportunity to mount a longitudinal EE impact study similar to that being undertaken by ESRI.

C. Entrepreneurship Education — Policy level

C1. Need for EE strategy statements from primary, secondary and tertiary sectors

It is now timely for the primary, secondary and tertiary sectors to make appropriate statements regarding their approach to EE at both the overall and individual sector levels. The two lead government departments (and the DES in particular) must play a key leadership role at all three levels but this will be particularly important at primary and secondary levels, where individual schools have relatively little discretion and resources.

C2. Support collaborative approaches to EE development and provision

Regarding both HE and FE institutions, a number of potential models have emerged e.g. the UCD Strategic Plan to 2014 which includes *'a focus on stimulating creativity, innovation, entrepreneurship and active citizenship in all our students'*. The UCD-TCD Innovation Alliance also shows the way with its commitment to *'creating an infrastructural and cultural environment where innovation and entrepreneurship thrive'*. The ACE Initiative brings together the Institute of Technology Blanchardstown, Cork Institute of Technology, Institute of Technology Sligo and National University of Ireland Galway and is being led by Dundalk Institute of Technology. The ACE project aims, through a collaborative approach, to create entrepreneurial graduates. This requires embedding entrepreneurship education into existing non-business programmes and effecting organisational change within and between the institutions to reflect entrepreneurial processes involving collaboration between the academic Schools and Departments, incubation and technology transfer offices. The ACE Initiative is supported by the Strategic Innovation Fund of the Higher Education Authority (HEA).

C3. Adequate funding is essential for implementation of EE policies and strategies

All such policy/strategy statements must be accompanied by clear and adequately financed action/implementation plans that can be subject to ongoing evaluation and assessment in terms of inputs, outputs, impacts (based on longitudinal studies) and overall performance.

C4. Establish Inter-departmental structures to assist roll-out of EE strategy

As part of this overarching implementation process and in the context of impending public service reform, adequate and appropriate Inter-departmental mechanisms must be established to oversee the rolling-out of a 'national system of entrepreneurship education' on the basis of the National Entrepreneurship Policy Statement. It is essential that there are clear lines of responsibility and day-to-day management at the national, regional and local levels.

Clear roles and responsibilities should also be defined at school and college management levels, with appropriate representation at management committee/board level and designated 'EE Champions'. Rather than being a bar to status and promotion, as now appears to be the case, interest and involvement in enterprise education should be consciously promoted in the context of the emphasis placed by government and society in general in encouraging and developing entrepreneurial capabilities and initiative.

C5. Promote formal EE networks

Formal EE Networks (at 1st, 2nd and 3rd level) should be promoted and facilitated, involving appropriate groupings of educational institutions and organisations such as IBEC, SFA, ISME, Chambers of Commerce, etc., who are organised locally, regionally and nationally. This is required if enterprise education is to be recognised as a clear priority for both the education system

and the overall enterprise sector. These networks should be complemented by schemes such as Entrepreneur in Residence initiatives.

C6. Review EE prizes and award schemes

Forfás and/or private consultants should be commissioned to undertake a review of the great variety of prizes and award schemes aimed at encouraging entrepreneurship in general and enterprise education in particular. Some of these play a key strategic role (e.g. Bí Gnóthach at the primary level) while others have been inadequately specified and judged. While it might be impossible to 'ban' inappropriate and poorly administered competitions, clear and agreed criteria for such awards could be set out as a result of such an exercise.

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