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Entry to Higher Education in Ireland in the 21st Century

Discussion Paper for the NCCA / HEA Seminar to be held on 21st Sep 2011

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HEA
Higher Education Authority
An tÚdarás um Ard-Oideachas

NCCA
An Chomhairle Náisiúnta Curaclaim agus Measúnachta
National Council for Curriculum and Assessment

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Introduction



This paper will discuss the selection of school leavers for third level education,[1] and the role of the Leaving Certificate in that process. It will describe the points system and its evolution over the past 35 years and will explore the senior cycle curriculum and its assessment. It will consider the concerns which have been expressed in recent times by academics, employers, the media and the public generally. It will indicate a range of possible alternative systems of selection and will identify the strengths and weaknesses of these alternatives. It will pose some questions for the debate currently underway, and make suggestions as to how concerns might be addressed.

1 The paper relates to the transition of students from second to third level education. It does not address issues relating to the selection of mature students, international students, those entering the system with FETAC qualifications or those applying for the new Springboard courses. It does not include a discussion of the Leaving Certificate Applied (LCA), as it recognises that LCA was not designed as a path of direct progression to higher education.

Transition from second to third level – the points system



The number of new entrants to higher education in Ireland in 2010 was 43,000 or about 65% of the relevant age cohort. This is a tenfold increase since the mid 1960s when fewer than 4,500 students entered higher education each year. The number of new entrants is projected to grow during the next decade to about 65,000 in 2025.[2]

Not all those who enter higher education come directly from second level. More than 20% of those who entered higher education in 2010 were either mature students, or had come from further education with FETAC qualifications. A small number of students were admitted with alternative entry requirements, under the HEAR and DARE schemes for students from disadvantaged backgrounds and students with disabilities.[3] In the case of these latter students, contextual factors such as special educational needs, educational history, home circumstances etc. were taken into account in considering their applications.

Under legislation governing higher education in Ireland, universities and institutes of technology are responsible for their own policies in relation to the selection and admission of students. The Universities Act of 1997 and corresponding legislation relating to institutes of technology, provide that academic councils shall make recommendations to governing authorities on the admission of students.[4] In the case of the constituent universities of the National University of Ireland (NUI), the NUI determines the basic matriculation requirements, but each university is empowered to prescribe additional requirements generally or in respect of particular faculties of the university.

Applicants for higher education places must satisfy the minimum requirements for their course of choice, and when demand for places exceeds the number of places available, places are allocated on the basis of the rank order of students on a points scale. The points scale is based on an applicant's results in six subjects of the Leaving Certificate examination, the maximum number of points being 600.[5] The system, which is commonly referred to as the points system, is administered by the Central Applications Office (CAO) which is a limited company set up by third-level institutions in the Republic of Ireland as an administrative mechanism for dealing with applications and admissions. All universities, institutes of technology, colleges of education and many private and partially publicly funded HE institutions use the CAO to select applicants. Each institution retains control of its own admissions policies and can change these policies if they wish.

A small number of courses require candidates to satisfy other criteria in addition to the Leaving Cert results. For example, courses in art or visual communication or design or architecture require the submission of a portfolio of student work; applicants for music courses are usually required to undergo a performance test; courses in drama or theatre studies include an interview, and since 2009, applicants for Medicine are required to sit an additional test called HPAT-Ireland (Health Professions Admission Test-Ireland).[6]

2 *National Strategy on Higher Education to 2030*, p.44.

3 For further information on the HEAR and DARE access routes see http://www.accesscollege.ie.

4 Section 14, Universities Act, 1997.

5 From next year, i.e. 2012 onwards, students achieving a Grade C or higher on the Higher Leaving Certificate Mathematics paper will be given 25 bonus points, so for such students the maximum number of points will be 625.

6 The HPAT is designed to measure a candidate's logical reasoning and problem solving skills as well as non-verbal reasoning and the ability to understand the thoughts, behaviour and/or intentions of people. Candidates can gain a maximum of 300 further points in this test and these points are added to the points gained in the Leaving Cert. In an effort to reduce the pressure on students to gain maximum points in the Leaving Certificate, the Irish Medical Schools agreed three years ago to reduce the maximum number of points gained by applicants to 560 points instead of 600 points. Applications for Medicine are therefore scored out of a maximum of 860 points.

Transition from second to third level – the points system [continued]



School leavers wishing to apply for higher education courses are required to apply by the 1st February of their final year in school. They can choose up to ten courses at Level 8, and ten courses at Levels 6 and 7 which they identify in order of choice. They can change their mind about their course(s) of choice until 1st July – except in the case of those courses where criteria in addition to the Leaving Cert (e.g. interviews, portfolios etc) are taken into account. The system is designed so that students are offered the top choice of level 8 course and the top choice of levels 6/7 course for which they are eligible.

When applying for a place in higher education through the CAO, students can choose from over 1,330 courses in over 45 higher education institutions. Over 880 of these are Level 8 courses and more than 440 are at Levels 6 or 7. The overall number of courses has trebled over the past 20 years with the growth being most significant in level 8 courses in institutes of technology.[7] Some courses are highly specialised with only a small number of places available. In some institutions, there can be between 10 and 20 different specialised or denominated courses within the arts or business or engineering faculty. On the other hand, other HEIs offer a generic first year course in arts or business or engineering and students do not specialise until after first year.[8]

When there is only a relatively small number of places available on a course, the supply-demand ratio is likely to be higher than for courses where a larger number of places is available. When the supply/demand ratio for a course is high, the cut-off points are also more likely to be high.[9] When a higher education institution decides to offer a number of denominated courses rather than one generic course, the probability of getting a place on any of the courses is reduced and the cut-off points are likely to be higher than for a generic course which has a larger number of places available. Cut-off points are not an indicator of the difficulty or the prestige of a course – nor are they an indicator of quality - they are largely a factor of the supply-demand ratio for that course. The Points Commission recommended in 1999 that the number of places available on every course be published when places were offered, but this has not been done. It also recommended that where feasible, first year courses should be generic courses and should not be over-specialised or denominated, but this recommendation has not been implemented either.

7 In 1993, applicants could choose from a total of 470 courses. This had increased to 600 by 1997.

8 Some applicants and even some institutions regard the supply-demand ratio for a course as an indicator of the popularity or "quality" of that course. This has added to the pressure for institutions to fragment a generic first year course into a number of separately denominated courses, which usually increases the ratio of demand to supply for each individual course.

9 In the case of a denominated Arts course where there are 50 places and 400 applicants, the cut-off point is likely to be quite high because the ratio of demand to supply is 8:1. Where there are 500 places and 1,000 applicants the ratio is only 2:1. This year for example, the cut off point for English in UCD – a denominated course - (DN511) was 485 whereas in UCC where English can be studied in First Year as part of a generic Arts course (CK101) the cut-off point for Arts was 345.

Backwash effect of the Points System



Because the points system is based on the Leaving Cert, students tend to conflate the Leaving Cert with the points system. This is evident when they are asked about their Leaving Cert results. Instead of stating their results in terms of subjects and grade levels achieved, as their results are issued by the State Examination Commission, students will usually respond to the question of "How did you get on in the Leaving Certificate" with the reply, "I got X number of points".

During their senior cycle studies, students (advised by their parents and teachers) will do everything possible to optimise their potential points. Some students base their subject choice for Leaving Cert on the perceived likelihood of getting a high grade, rather than on their aptitude for the subject or its relevance to their higher education course of choice. Others will pick and choose topics within the syllabus, and exclude other topics, thus effectively truncating the syllabus, having checked whether the examination requires candidates to answer questions on all aspects of the syllabus or not.[10] There have been reported instances of students who have not previously been diagnosed with special educational needs seeking reasonable accommodation in the Leaving Cert examination, if they perceive that such an accommodation might gain them some extra marks.[11] Where additional requirements are sought for specific courses such as a portfolio for Art or the HPAT for Medicine, many students undertake extra coaching and grinds to prepare for these additional requirements,[12] as well as engaging in such coaching for their Leaving Cert subjects. The increasing practice by those who can financially afford it, of paying for private tuition during their final year in school, further disadvantages students from lower socio-economic backgrounds who are not in a position to do so.

Because the Leaving Cert is a high stakes examination, used as it is for selection to higher education, its backwash effect on teaching and learning and on the student experience, especially in senior cycle, is considerable.[13] The points system influences an individual student's subject choice; the examination becomes the determinant of what is studied and how; non-examination subjects get little or no attention and in many cases, broader co-curricular activities are ignored or minimised. Student stress levels increase as the June examination looms and for some students their final year in school is an unhappy experience which they simply want to get through as quickly as possible.

10 Because of the predictability of the structure and choice on examination papers from year to year, candidates can usually ignore some topics on the syllabus knowing that they will still have sufficient choice of questions on the examination paper.

11 Over the past decade, there has been a considerable increase in the numbers of Leaving Cert candidates seeking and being granted a Reasonable Accommodation in the Leaving Certificate. The vast majority of these accommodations (c. 2,500) relate to the so-called "Spelling and Grammar Waiver" where candidates are not penalised for spelling and grammar errors.

12 Various public and private providers offer courses and classes for portfolio preparation or for HPAT preparation. In the case of HPAT courses, some students who performed poorly in the HPAT on their first attempt claim to have improved their score after attending coaching or grinds for the test.

13 See for example E. Smyth *Do Schools Differ?* Dublin: Oak Tree Press / ESRI 1999; E. Smyth, A. Dunne, M. Darmody and S. McCoy *Gearing up for the Exam? The experience of Junior Certificate students.* Dublin: Liffey Press / ESRI, 2007 and E. Smyth, J. Banks and E. Calvert *From Leaving Certificate to Leaving School: A Longitudinal Study of Sixth Year Students: Final Report.* ESRI (forthcoming).

The Leaving Certificate Examination



The Leaving Certificate examination is a rite of passage for the vast majority of Ireland's young people.[14] It marks the completion of second level education. It is a passport for lifelong learning and prepares students for the requirements of further education and training, for employment and for their role as participative, enterprising citizens. It is the culmination of five or six years of second level education. Most students sit the Junior Certificate after three years and will then spend two or three years in senior cycle before sitting the Leaving Cert examination.[15] In senior cycle, students study six or more subjects, which usually include English, Irish[16] and mathematics. All subjects are offered at ordinary and higher levels and in addition, maths and Irish are offered at foundation level. Students can choose from almost 40 subjects including a wide range of European and non-European languages, science, business and practical subjects.

There is a heavy emphasis in the Leaving Certificate programme on the terminal or end-of-cycle examination which is marked and graded by external examiners. Most subjects taken at higher level are examined by one examination paper with the exception of Irish, English and mathematics, where students sit two papers.[17] In many subjects, other modes of assessment are used in addition to the terminal written examination. For example, in Irish and foreign languages, a component of the marks is allocated for oral and aural exams:[18] in geography and history, students must prepare a project in advance of the examinations and answer questions on the project. Home Economics candidates must complete and submit a series of tasks during the final year of the Leaving Certificate course. There are also practical/performance assessments in subjects such as music, art, technical drawing, and construction studies. Syllabus and assessment reforms in recent years have gradually seen the dominance of the (terminal) examination reduced, although it is still the main component of Leaving Cert assessment. However, unlike other countries where a significant proportion of marks in national (or state) examinations are allocated by the candidate's own teachers,[19] the Leaving Certificate (established) programme in this country is examined and marked by external examiners and there is virtually no involvement in marking or grading by the students' own teachers.[20] The Leaving Certificate examination is held annually in centres around the country during three weeks in June, and the results are made available to schools and students in mid-August. The examinations and the issuing of the results receive major coverage in the national media and are subject to intense scrutiny by the public.

The Leaving Certificate curriculum and its individual subject syllabi are drawn up by the National Council for Curriculum and Assessment (NCCA) and are submitted to the Minister for Education and Skills for approval. Each subject syllabus is drafted by a course committee which comprises subject experts from various walks of life and sectors of education, including the higher education sector. The committees have access to national and international research on the subject area, and school networks also contribute, allowing for practitioner as well as representative input. The role of the NCCA is an advisory one in relation to both the curriculum and the examinations. The State Examinations Commission (SEC) has responsibility for administering the public examination system – it sets and marks the examination papers, collates the results and issues them to the schools (also making them available online to candidates) as well as making arrangements relating to examination centres, and oral and practical tests.

14 Programmes leading to the award of the Leaving Certificate are of two years duration and are offered in three forms - the Leaving Certificate (Established), the Leaving Certificate Vocational Programme, and the Leaving Certificate Applied. Almost 90% of the age cohort sit the Leaving Certificate every year.

15 The Leaving Certificate is also taken by mature students who may or may not have enrolled in a second-level school.

16 Irish is the only compulsory subject in senior cycle, although most students also study English and Mathematics.

17 In practice, more than three hours are allowed for examination papers which have a high linguistic component e.g. English and Irish. For example, three hours and 20 minutes are allowed for Papers 1 and 2 in the English and Irish examination.

18 From 2012 onwards, 40% of the marks for Irish will be allocated for the oral examination.

19 However, there is an increasing tendency in other countries to reduce the element of internal marking and to increase the proportion allocated to external marking, especially in situations where the stakes are high e.g. where the assessment is used for selection to higher education.

20 Second level teachers see themselves as advocates for their students and have consistently objected to acting as examiners of their own students for certification purposes.

Criticisms of the Leaving Certificate and of student unpreparedness for higher education



Concerns that the second level education system does not prepare students adequately for third level have been expressed with monotonous regularity during the past 50 years. In 1963, a Labour Party Policy Document **Challenge and Change in Education** stated:

> Our present system of selection for the university is in urgent need of radical change. .... The failure of the present matriculation system on an intellectual level is shown by the fact that some 25% of first year students in the universities fail their first year examinations.

In 1967, the Commission on Higher Education stated that it had received evidence that Irish students were "ill-prepared for university studies and find it difficult to adjust themselves to university conditions". The report commented: [21]

> The low standard of entry is, we think, one of the reasons for the failure rate at first university examinations. ... at some first university examinations the percentage of those who fail at the first attempt may reach 40% or 50% ..... the low entry standard, taken in conjunction with (these) circumstances, makes high initial failure rates almost inevitable.

In 1970, an analysis of the Leaving Certificate curriculum and its assessment criticised both the curriculum and the way it was assessed. The authors of the report found that subject syllabi emphasised content to the detriment of skills and "intellectual functioning". The report was critical of the extent to which the Leaving Certificate examination influenced the student learning experience and stated: [22]

> For too long the cart has been before the horse; final marks (i.e. the marks achieved in final examinations) have been treated by society as the ultimate goal of education. Intellectual curiosity, the joy of discovery, involvement in intellectual issues – in a word, all these activities and responses which contribute to true learning have been subordinated to, often sacrificed to, a public examination. To restore things to their proper order is the most pressing problem in Irish secondary education at the present time.

In 1986, a report by the Curriculum and Examinations Board (CEB) on senior cycle was again critical of the Leaving Cert and pointed out that the "backwash effect" of the points systems on teaching and learning at second level was detrimental and harmful to the quality of learning not only of those progressing to third level, but also of those students who might wish to leave the education system on completion of senior cycle. The report stated that senior cycle education should instil "a sense of confidence, enterprise, creativity and achievement in students, as well as the capacity for self-directed learning and the ability to identify problems and to propose and implement solutions to them". [23]

In 1999, the Report of the Points Commission also referred to the negative impact of the points system on students and on their senior cycle school experience. Issues raised in that report included high levels of student stress;[24] the negative impact of the points system on students' personal development; choice of subjects by students to attain the highest levels of points for entry to third-level education; a narrowing of the curriculum

21 *Report of the Commission on Higher Education*, Volume I, 1967 p.103.

22 George Madaus and John Macnamara, *Public Examinations: A Study of the Irish Leaving Certificate*, 1970, p. 135.

23 CEB *Senior Cycle: Development and Direction*. Consultative Document. November 1986.

24 The report cited Damien Hannan et al, *Coeducation and Gender Equality, Exam Performance, Stress and Personal Development*, ESRI/Oak Tree Press, Dublin: 1996.

Criticisms of the Leaving Certificate and of student unpreparedness for higher education [continued]



arising from the tendency to teach to the examination rather than to the aims of the curriculum; and an undue focus on the attainment of examination results.[25]

In 2002-2003, the NCCA engaged in a wide-ranging consultative process on reform of senior cycle. It published a paper on developing senior cycle and engaged in a series of meetings and seminars, as well as establishing an online survey.[26] Drawing on the views elicited during the consultation, the NCCA submitted proposals for the future of senior cycle education to the Minister for Education in June 2004.[27] The proposals included a strong emphasis on key skills and reform of assessment whereby "A greater variety of modes of assessment will be available, including written examinations, oral and aural assessments, project assessment, assessment of the performance of students in completing tasks and portfolio assessment". The document made the point that "(t)he current concentration of assessment into one event at the end of senior cycle is unacceptable and unproductive in relation to meeting many of the desired aims and principles of assessment and of senior cycle education" and pointed out that the demand to spread assessment over the two or three years of senior cycle, bringing them closer to the point of learning, was consistent throughout the review process. The NCCA proposals of June 2004 envisaged a significant and exciting reform of the Leaving Certificate programme and its assessment. But the proposal in its entirety was not accepted by the then Minister for Education and Science who regarded it as a "Rolls Royce" model of reform.

There have been ongoing changes in the Leaving Cert curriculum in recent decades, and according to the Department of Education and Skills' website, the Leaving Cert programmes today "emphasise the importance of self-directed learning and independent thought; a spirit of inquiry, critical thinking, problem-solving, self-reliance, initiative and enterprise; preparation for further education, for adult and working life and lifelong learning".[28] However, criticism by employers, the higher education sector, the media and the public suggests that Leaving Cert students do not focus adequately on these goals and that they do not achieve the skills required for higher education and for employment during senior cycle. Whether this arises from inertia within the second-level system or downward pressure from the points system is a matter for debate.

The former President of DCU, Ferdinand von Prondzynski, voiced his criticism as follows: [29]

> Here's the situation. We have a final secondary school examination that we all know isn't fit for purpose. It encourages learning methods that offend the most basic principles of pedagogy. Its curriculum is outdated and hard to change to something better. By all accounts it fails to engage the interest and enthusiasm of either teachers or students. It doesn't attract any respect from the wider world, including the world of business. It has little impact internationally ….

Speaking to guidance counsellors in August 2010, Professor Tom Collins, then interim President of National University of Ireland Maynooth and chairman of the NCCA was particularly critical of the points system, stating:[30]

> …there is growing anecdotal evidence that the system is no longer fit for purpose at third level either. There is a palpable concern in higher education regarding the capabilities and dispositions of students entering it straight from second level. The manner in which the points system rewards rote learning, instrumental learning and memorisation while simultaneously discouraging exploration, self-directed

25 *Commission on the Points System, Final Report and Recommendations*, p. 49.

26 NCCA *Developing Senior Cycle: Issues and Options* 2003.

27 NCCA *Proposals for the Future of Senior Cycle Education in Ireland: Overview* June 2004.

28 General introduction to the Leaving Certificate Vocational Programme available on http://www.education.gov.ie.

29 Ferdinand von Prondzynski, *Irish Times* May 10th, 2011.

30 Tom Collins: *We're missing the point on how to prepare for college* 16th August 2010 http://www.careerguidance.ie/news/.

Criticisms of the Leaving Certificate and of student unpreparedness for higher education [continued]



learning and critical thinking means that even relatively high achieving second-level students can struggle on entering third-level.

At a meeting of the Joint Oireachtas Committee on Education in December 2010 which focused specifically on the transition from second to third level education, several speakers said that the Leaving Certificate, with its focus on rote learning, left students ill-equipped to meet the challenges of third level. It was stated that an increasing number of students entering third level education exhibit serious deficiencies in basic literacy and analytical skills. Tom Boland, Chief Executive of the Higher Education Authority said that there was growing concern about the Leaving Certificate across the third-level sector – particularly its failure to foster problem-solving and independent learning.

A national survey carried out recently by **We the Citizens**[31] found that out of a random sample of 1,200 people, 73% agreed or strongly agreed that there should be less emphasis on final examinations in the Leaving Certificate programme. 70% agreed or strongly agreed that there should be more emphasis on scientific subjects. 85% agreed or strongly agreed that the education system should encourage creativity and independent thought. 87% agreed or strongly agreed that it should create responsible Irish citizens and 82% agreed that civic and social education should be prioritised.[32]

Earlier this summer, the former dean of the Smurfit School of Business in UCD, Dr. Tom Begley, described the Leaving Cert as "dysfunctional" and went so far as to say that it needs to be "blown up".[33] In a presentation at the MacGill Summer School in Glenties, Professor Brian MacCraith, President of DCU, added his voice to the criticisms of the Leaving Certificate, stating that it discourages independent thought and critical thinking. He said that the current system does not deliver the type of rounded education that will be required for Ireland's economic recovery, adding that graduates of the future will require strong skills in literacy and numeracy as well as excellent generic skills in communications, digital intelligence, adaptability, critical thinking and innovation.[34] And the President of the Union of Students in Ireland, Gary Redmond, called for the Leaving Certificate to be overhauled, saying that the exam is "in dire need of change."[35]

While criticism of the Leaving Cert may be well-founded, examination results over the past decades do not show any deterioration in student performance. An analysis of results over the past twenty years shows an increase in the number of higher grades achieved by Leaving Cert students.[36] However, the recent results of the OECD Programme for International Student Assessment (PISA) tests in literacy, numeracy and scientific numeracy show a decline in the relative performance of Irish 15 year old students compared to their international counterparts. Our literacy ranking fell from 5th in 2000 to 17th in 2009; and our numeracy ranking fell from 16th to 26th over the same period.[37] The fact that PISA tests concentrate on the application rather than the regurgitation of knowledge[39] has been taken by some commentators to indicate that there is an overemphasis on rote-learning and not sufficient emphasis on the application of knowledge in our schools.

31 *"We the Citizens"* is an independent national initiative that aims to explore whether the Republic of Ireland could benefit by citizens coming together in new ways of public decision-making. See www.wethecitizens.ie for details.

32 Quoted in the *Irish Times* 18th July 2011.

33 *Sunday Times* 7th August 2011.

34 Seán Flynn, "*DCU President Criticises Leaving Cert,*" Irish Times 5th August 2011.

35 Irish Times, 18th August 2011.

36 This has led to accusations by the media and others of grade inflation. For instance see: http://www.stopgradeinflation.ie/links_irl.html.

37 Sylvia LaRoche and Fernando Cartwright, *Independent Review of the 2009 PISA results for Ireland*. Dublin: Educational Research Centre Sep 2009 Available at: http://www.erc.ie/documents/statscan_pisa00to09_final_report.pdf.

38 See explanation of PISA tests on http://www.youtube.com/watch?v=Ugz_1Clpsdk&feature=youtu.be

Concerns about student unpreparedness for higher education are not unique to Ireland



Concerns about second level students being inadequately prepared for higher education are not unique to Ireland. Similar concerns have been voiced in the UK, the US and in countries of the European Higher Education Area (EHEA). In the UK, in June 2009, a report from the think-tank Reform entitled "A New Level", called the existing A levels "a hollow preparation" for university. It claimed that the existing A levels have created a "learn and forget" culture. The report stated that universities are reporting a generation of "high-maintenance" students who seek constant advice. It complained that students coming into university have not developed "a spirit of independent inquiry and confidence that will set them up for university and for later life."[39] Commenting on the report, Professor Gordon Stobart, of the Institute of Education at the University of London said that A level examiners had lost flexibility because the grading system had been tightened.

In the U.S., a study published in 2008 found that even though the U.S. high school graduation rate was only about 70%, 40% of all students who enter college have to take remedial courses. 65% of college professors reported that what is taught in high school does not prepare students for college.[40] In September 2010, a year after he had criticised the Irish education system for its emphasis on rote learning and lack of emphasis on creativity and innovation, Craig Barrett made similar critical comments about the U.S. education system. He said "We have been talking about failing education for 30 years and we have not seen the bottom line move one bit". He claimed that "perceptions about education (in the U.S.) have grown surprisingly negative – especially in the fields of science, technology, engineering and math."[41]

39 Reform is an independent non-party think-tank whose mission is to set out a better way to deliver public services and economic prosperity. The authors of the report A New Level are Dale Bassett et al. Available at: www.reform.co.uk.

40 Tony Wagner, *The Global Achievement Gap* New York: Basic Books 2008 and 2010.

41 See *Craig Barrett's Plan to STEM Category 5 storm facing U.S. Education System* posted Sep 29 2010 on http://finance.yahoo.com/

Curriculum and Assessment at Senior Cycle



Given the concerns identified, does the problem lie with the Leaving Certificate curriculum or with its assessment? An analysis of the current curriculum and its individual syllabi suggests that the curriculum itself is not the key problem. The various subject syllabi are written in such a way as to require students to engage critically with subject content and to apply higher order thinking skills.[42] For example, the history syllabus is designed to challenge students to appreciate "the complexities inherent in the challenge of interpreting the past and making reasoned judgments based on an evaluation of evidence". The aims of that syllabus include the ability to think critically, to develop an awareness of bias and strive to be objective, and to evaluate one's historical inheritance through the study of history from a variety of perspectives.[43] The (old) Mathematics syllabus is specific in identifying the higher order thinking required in the learning of the subject.[44] In terms of student outcomes, the syllabus specifies that:

> Students should be able to recall relevant facts. They should be able to demonstrate instrumental understanding (knowing how) and necessary psychomotor skills. They should possess relational understanding (knowing why). They should be able to apply their knowledge in familiar and eventually unfamiliar contexts; and they should develop analytical and creative powers in mathematics. Hence they should develop appreciative attitudes to the subject and its uses.
> **(Underlining as in the original document)**

While the current Leaving Cert syllabi address knowledge and understanding, higher order thinking such as application, analysis and synthesis, are also emphasised.[46] It is no longer true, as it was in 1970, that "the objectives of each subject (are) stated almost exclusively in terms of content"; and that one "can only guess at what students (are) expected to be able to do with that content."[47]

In its recent consultative document on the revision of the senior cycle curriculum, the NCCA recognises the need for greater emphasis on key skills, and has developed a key skills framework for senior cycle. The intention is that "the five key skills of information processing, being personally effective, communicating, critical and creative thinking and working with others will be embedded in senior cycle curriculum and assessment, thus helping learners to think critically and creatively, to innovate and adapt to change, to work independently and in a team and to reflect on their learning."[48] These skills, which were developed in consultation with higher education and business interests, underpin the new mathematics syllabus and the recently launched draft Leaving Certificate syllabi in science subjects and physical education. Theses skills will also be incorporated into other new subject syllabi as they come up for revision.

42 Bloom's Taxonomy of educational objectives suggest that there are six successive levels of thinking: knowledge, comprehension, application, analysis, synthesis and evaluation, the last four being the higher order thinking skills. (Benjamin Bloom et al. *Taxonomy of Educational Objectives. Vol. 1 the Cognitive Domain*. New York: McKay 1956).

43 Leaving Certificate History Syllabus pp. 2 and 3.

44 A new approach to the teaching of Maths, Project Maths, is being introduced on a phased basis in second-level schools in both junior and senior cycle.

45 The Leaving Certificate – Mathematics syllabus p. 3. http://www.education.gov.ie.

46 The Maths syllabus attempts to address Bloom's full Taxonomy of educational objectives and states that "the categories used above are intended, inter alia, to facilitate the design of suitably structured examination questions".

47 In a report on the Leaving Certificate in 1970, Madaus and Macnamara were critical of the way in which syllabi were written, and argued that when a syllabus was being revised "it should be composed with reference to two axes, one expressing the content and the other expressing the various levels of intellectual functioning". (G. Madaus and J. Macnamara *op.cit.*).

48 NCCA *Towards Learning: An Overview of Senior Cycle Education*, 2009, p.7.

Curriculum and Assessment at Senior Cycle [continued]



While the Leaving Cert subject syllabi provide ample opportunities for students to develop and apply higher order thinking skills, the real driver of teaching and learning in senior cycle is the Leaving Certificate examination, and subject text-books are largely based on the examination. The Leaving Certificate examination is a prime example of a high-stakes examination, used as it is as the main tool for selection for higher education. Given this and the fact that it is widely accepted that "assessment is the tail that wags the curriculum dog"[49] an analysis of recent examination papers and related marking schemes might throw some light on why there has been such criticism of the Leaving Cert.[50] In the past it would have been difficult to undertake such an analysis as marking schemes were highly confidential and there was very little feedback available on student performance in public examinations. With the setting up of the State Examinations Commission (SEC) a decade ago, a policy of transparency and openness in relation to all aspects of the public examination system was adopted. Today, marking schemes are explicit and accessible to all on the SEC website.[51] Examiners' reports for the different subjects, which include an analysis of examination scripts are also available on the website. When the examination results are issued in August every year, they are accompanied by a statistical analysis of student performance, including numbers taking each subject and the distribution of grades by subject and by gender. After the results are issued, any student who so wishes may view his/her marked script or scripts. The examiners' reports on the various subjects include advice and recommendations to students and teachers about improving examination performance.

As a result of the transparency and easy accessibility of all this information, Leaving Certificate students and their teachers nowadays are familiar with how examination scripts are marked and they know what types of answers are likely to result in high grades. The layout, content and focus of examination papers are also more predictable than they were in the past. As they approach the examination period, students focus more and more on exam techniques and are reluctant to engage with any form of learning which will be not be rewarded in the examination.[52]

The marking schemes for the different subjects of the Leaving Certificate suggest that in most subjects, it is possible for a student to obtain a D and perhaps a C grade by focusing solely on content and knowledge – where rote-learning can play a major part. To get a higher grade on Higher Level papers, students are expected to demonstrate skills of application, i.e. to apply their knowledge to a new or different problem.[53] Higher order skills such as analysis, synthesis, evaluation etc. are usually required to achieve Grades A or B. However, many students have indicated that intense preparation and examination practice enables them to obtain high grades by learning off by heart evaluations or analyses prepared by others, and regurgitating these at the examination.

49 Andy Hargreaves, *Curriculum and Assessment* Reform Milton Keynes: Open University Press, 1989.

50 A study such as was carried out by Madaus and MacNamara in 1970 might usefully be carried out again. In analysing marked exam scripts in 1970, they found a high level of marker unreliability. They used Bloom's Taxonomy to identify whether higher order thinking was rewarded and found that in general, the Leaving Cert papers concentrated on knowledge and comprehension. They recommended sweeping changes to the Leaving Cert as it then was. They suggested that evaluation of student performance should be continuous over the whole period of a student's secondary schooling and that the final examination should be supplemented by the addition of a scholastic aptitude test.

51 http://www.sec.ie/.

52 A research study carried out in Cork in the 1990s, found that the Leaving Certificate curriculum and syllabi did not prevent students from engaging in multiple ways of learning, nor did it prevent teachers from developing innovative approaches to teaching, including approaches which focused on skills such as team work, critical thinking and creativity. Many teachers and students were willing to engage in creative and innovative teaching and learning methodologies in Transition Year and Fifth Year but were not willing to get involved in such activities during the Leaving Certificate year (i.e. the final year of schooling) as they were of the view that such activities would not be recognised or rewarded by the Leaving Certificate examination. (A. Hyland *Final Report of the Multiple Intelligences, Curriculum and Assessment Project*,1999).

53 For example, in mathematics, the application of a formula for problem-solving is almost invariably associated on the exam paper with the identification of the formula which the candidate is asked to apply.

Curriculum and Assessment at Senior Cycle [continued]



It can be very difficult for an examiner to distinguish between analyses and evaluations which are original and are the work of the candidate, and answers learned off in advance of the examination.

Another source of debate among students, teachers and the media each year is the variability in the marking/grading of different subjects. There is a perception that some subjects are marked more leniently than others and that by taking these subjects, students are more likely to get higher grades. An analysis of the grades awarded in the Leaving Cert examination 2011 shows that there is some variation between the different subjects in terms of the proportion of students who were awarded a higher grade on a higher level paper. For example, the proportion of students awarded an A, B or C grade varied from 94% in Music (taken by 5,400 students) to 70% in Biology (taken by 22,700 students). As regards A grades, 27% of the 1200 students who took Applied Maths scored an A compared to 22% in Chemistry (total of 6,200 students) and 20% in Physics (total of 4,800 students). However, it is worth recording that some subjects that are perceived by students as "easy" subjects did not have a particularly high proportion of high grades compared to some of the subjects which are perceived by students to be "difficult" subjects. For example, only 9% of students who took the higher Geography paper got an A and 76% got an A, B or C – not a high proportion relative to other subjects. In Agricultural Science, a subject allegedly taken by some students seeking high points, because they think it can be relied on for a high grade, 13% got an A grade and 66% got an A, B or C – one of the lowest proportions of all the subjects.[54]

While the Leaving Certificate is designed to be a fair and equitable examination, not all students fare equally in the examination stakes. Students who excel linguistically and logically are at a significant advantage in the Leaving Certificate. The focus on terminal written examinations results in a heavy emphasis on two of Gardner's Multiple Intelligences – the logical/mathematical and the linguistic – often to the detriment of other intelligences.[55] A better alignment between the syllabus aims and their assessment would require more varied modes of assessment which in turn would encourage the development and application of other skills and intelligences. However, authentic assessment of a wider range of intelligences is recognised as complex and time consuming. Work carried out in the U.S. suggests that creativity tests have not fulfilled their potential. While some creativity test instruments are reasonably reliable, their predictive validity is poor.[56] In a high stakes competitive context, such as selection for higher education, forms of assessments other than pen and paper tests are not likely to be valued by those involved in the selection process, to the same extent as traditional forms of assessment.

Issues of equity also arise in relation to the socio-economic background of students. It is well documented that students from higher socio-economic backgrounds achieve better Leaving Certificate results than their less socially privileged peers. There are many reasons for this – some of which are explored in another paper prepared for this conference.[57] In schools with a high concentration of students from lower socio-economic backgrounds (e.g. DEIS schools), overall examination results are generally poorer than in schools where there is a broader social mix of students. This can be due to the fact that such schools have a higher proportion

54 There may be perfectly valid reasons for the variation in grades in different subjects, including the intellectual capacity of the different cohorts of students who choose the various subjects.

55 Gardner posits that each individual possesses at least eight intelligences: - linguistic, logical/mathematical, musical, spatial, bodily-kinaesthetic, interpersonal, intrapersonal, and naturalist. (Howard Gardner *Multiple Intelligences: New Horizons*. New York: Basic Books 2006).

56 M. Wallach *The Intelligence/Creativity Distinction*, cited in Howard Gardner *Multiple Intelligences: New Horizons* p. 176.

57 E. Smyth, J. Banks and E. Calvert *From Leaving Certificate to Leaving School: A Longitudinal Study of Sixth Year Students: Final Report*. ESRI (forthcoming).

Curriculum and Assessment at Senior Cycle [continued]



of students with literacy and numeracy problems; that student motivation may be lower and that the expectations of parents and teachers might be more limited. These factors may also be exacerbated by the fact that schools in less advantaged areas sometimes offer fewer Leaving Certificate subjects at higher level, especially in the area of Maths and Science. In addition, students from lower socio-economic groups are less likely to be in a position to pay for additional out-of-school coaching or grinds, which can enhance a student's confidence and their performance in the Leaving Certificate examination.

Assessment tends (and always has tended) to concentrate on what is relatively easy to measure, rather than what is most important, and this is true not only in Ireland, but in other countries as well. An international research project supported by Intel, Cisco and Microsoft[58] and led by Dr. Barry McGaw of the University of Melbourne, **Transforming Education: Assessing and Teaching 21st Century Skills**, is currently engaged in developing new approaches to assessing what they regard as "the core 21st century skills".[59] In a recent "call to action" paper, its authors state that listing skills is relatively easy; operationalising and assessing them is much more difficult. For assessment purposes, skills must be defined precisely and in measurable terms so that assessment tasks can be designed and scoring rubrics specified. The paper states:

> Reform is particularly needed in education assessment .... Existing models of assessment typically fail to measure the skills, knowledge, attitudes and characteristics of self-directed and collaborative learning that are increasingly important for our global economy and fast changing world. New assessments are required .... To measure these skills and provide the needed information, assessments should engage students in the use of technological tools and digital resources and the application of a deep understanding of subject knowledge to solve complex, real world tasks and create new ideas, content and knowledge.

While recognising the difficulties of reforming Leaving Certificate assessment, and also the advances in assessment in recent years, this paper suggests that there are a number of actions which might be considered to broaden the range of skills and attributes which are assessed by the Leaving Cert and which might reduce the pressure on students created by a single terminal examination. Some of these suggestions are already being implemented in some subjects – and there are proposals to introduce others in the coming years. Different modes of assessment could include projects, portfolios and other assignments completed in non-examination conditions. Essays and open book questions answered in supervised classroom conditions and externally marked, are other possibilities.[60]

58 Cisco, Intel and Microsoft, Partners in Education Transformation, *Transforming Education: Assessing and Teaching 21st Century Skills*.

59 These core 21st century skills are listed as follows: Creativity and innovation; Critical thinking; Problem solving; Communication; Collaboration and Information fluency.

60 An open book examination is to be introduced for the assessment of Leaving Cert Economics.



Instead of requiring students to sit one written examination at the end of the final year, two or more sittings at different points throughout the two year senior cycle could be an option.[61] Consideration might also be given to assessing some skills, e.g. problem-solving and creativity, in a non-subject related context. New and different forms of assessment could also reduce the current reliance on pen and paper tests and provide for greater use of new technologies, which might include online submission of essays (written under supervision) and computer-marked multiple choice questions. The predictability of the examinations should be reduced and this in turn is likely to reduce the dependence on rote-learning.[62]

Ireland has a lot of experience of assessing student performance by modes other than terminal examinations. We can build on the experience gained in the assessment of the Junior Certificate School Programme, Leaving Certificate Applied, Youthreach, as well as further education and training (FETAC),[63] while recognising that the higher the stakes, the greater the challenge and the greater the reluctance of stakeholders to engage with alternative and innovative forms of assessment!

61 However, some higher education institutions have expressed reservations about assessment in the penultimate year of senior cycle, arguing that such assessment does not measure performance at the completion of senior cycle and therefore lacks validity.

62 The new Leaving Cert Project Maths hopes to remove some of the predictability which has traditionally been associated with most Leaving Cert exam papers. An advice column in the *Irish Independent* on 1st Sep 2011 to Leaving Cert students stated: "To successfully deal with these questions (on the Project Maths exam paper in 2012), you first need to master the use of all the tools in the toolbox. This means not just learning methods off by heart, but understanding the ideas behind them and their suitability for different problems. The key word is understanding: the more you understand the less you have to learn, and the better prepared you will be for Section B questions of Paper 2. .... Do not expect this year's questions to be exact replicas of any questions you find ... The only thing they will have in common is being entirely unpredictable".

63 See for example, Á. Hyland (ed.) *Innovations in Assessment in Irish Education* Cork: UCC 1998.

The Leaving Cert as a predictor of higher education performance



An analysis of student performance in UCD in the early 1970s found that academic performance at the end of secondary school was the best criterion of likely success in university. Similar results were found in a study undertaken in UCC.[64] Because of this, it was decided to use Leaving Certificate results as the basis for a new university selection system. When the CAO was set up in the mid-1970s, and a common application system was put in place for the five universities, the Leaving Cert became the key criterion for selection, although separate matriculation examinations administered by Trinity College and the NUI continued for some years after the setting up of the CAO. Different criteria were used by different universities in the early years and from a technical and administrative perspective, the CAO was able to accommodate these differences.[65]

Successive studies carried out since the introduction of the points system indicate that the Leaving Certificate continues to be a reliable predictor of student performance in higher education.[66] Research carried out on behalf of the Points Commission in the late 1990s, showed that there was a clear relationship between Leaving Certificate attainment and performance in higher education.[67] In general, students with high points tended to obtain higher grades on graduation. However, the relationship was not linear and various factors such as type of institution, field of study and gender had an impact on performance.[68] Results in mathematics in the Leaving Cert were found to be a particularly good predictor of subsequent academic performance, regardless of the discipline chosen.

A recent HEA study on progression in Irish higher education confirmed these earlier findings and added that attainment in Leaving Cert English is also a strong indicator of the likelihood of students progressing to a second year of their higher education studies, albeit to a lesser extent than mathematics.[69] Overall, the study found that about 15% of First Year students who entered higher education in 2007/8, were "not present" in higher education a year later. The non-progression rate varied significantly by sector and by NFQ level. In the university sector the proportion not progressing was 9% whereas in the Institute of Technology sector it was 22%. The progression rate was highest in colleges of education (at 96%) and was lowest (at less than 75%) for students in Level 6 and 7 in institutes of technology. For level 8 academic and professional courses, the points system appears to be a good selection mechanism – it is less so in the case of practical and applied skills courses at levels 6 and 7.

64 The study was carried out by Aidan Moran, and was cited in the *Final Report of the Commission on the Points System*, p. 15.

65 For example, while UCD accepted the best six subjects as the basis for points. Trinity College accepted only five and UCG accepted seven. Similarly, different colleges gave different weightings to different subjects. Both the NUI and Trinity College continued to offer a separate matriculation examinations as an entry requirement for over 15 years after the CAO was set up and this was accommodated within the CAO system. NIHE Dublin (now DCU) used an aptitude test in addition to Leaving Cert results . Some colleges continued to interview students within the CAO framework and some required applicants to provide a portfolio of work. (For a brief history of the CAO, see the CAO website: http://www.cao.ie).

66 This echoes the findings of international research that student performance in second level education, as measured by examinations, is the best predictor of subsequent performance in higher education.

67 K. Lynch et al., *Points and Performance in Higher Education: a Study of the Predictive Validity of the Points System*, Research Paper No. 4, published by the Commission on the Points System, Dublin: Stationery Office, 1999.

68 Commission on the Points System: *Final Report and Recommendations* p. 15.

69 Of the students who entered the higher education system in 2007/8, 95% of those who got a C1 or higher in higher maths were still in the system a year later, whereas only 60% of those who got a D1 or less on the lower paper stayed the pace. (HEA *A Study of Progression in Irish Higher Education* October 2010).



The HEA study on progression highlights the fundamental importance of academic preparation for higher education.[70] It shows that there is a strong correlation between students' educational attainment at secondary level and their subsequent success in progressing through higher education, and that the influence of students' gender and socio-economic background on their progression is mediated mostly through their prior educational attainment, especially in mathematics. The study confirms that the highest rates of non-completion are in technology-based disciplines, corroborating the findings of earlier studies.[71]

It is important to bear in mind that the points system was created and is owned by the higher education institutions and that it can be changed at any time by those institutions. As its history shows, the system can and has been changed and adjusted from time to time to take account of different selection criteria. It is open to the higher education institutions together or separately, at any time, to change their selection criteria. This does not seem to be widely appreciated, even by those within the system.[72] If the higher education institutions believe, either individually or collectively, that the current selection system is no longer appropriate, they have the authority and the power to change it.

The points system is merely one of many possible selection mechanisms for selecting students for higher education. Its key purpose is to allocate scarce third level places. If there were sufficient places on every course for all qualified students who applied, there would be no need for a points system. For example, in the list of first round offers published in the national newspapers on 22nd August 2011, no cut-off points are published for courses which accepted all qualified applicants (AQA). The issue of points arises only when demand exceeds the number of places available. It should be noted that following the first round offers this year, there were vacancies on over 150 courses around the country, most of them in institutes of technology and private colleges.

70 *Ibid*., p. 59.

71 Mark Morgan, Rita Flanagan, and Thomas Kelleghan, *A Study of Non-Completion in Institutes of Technology Courses*; and *A Study of Non-Completion in Undergraduate University Courses*, Dublin: HEA, 2000 and 2001.

72 See for example Kevin Denny and Colm Harmon "Points System a crude measure of students' suitability for third level" in Irish Times 19th August 2011 in which they state: *"Many outsiders also find it striking that universities here have essentially no role to play in the undergraduate admissions system. ... That Irish universities are in effect "divorced" from the admissions process is unhealthy for another reason: they have little opportunity or incentive to tackle inequalities in access".*

Issues of Concern about the current Points system



This section of the paper lists some of the concerns which have been voiced in relation to the points system. Some of these concerns and criticisms are evidence-based; others are anecdotal and there is little or no evidence to support them. In some cases, the evidence does not support the issues raised, but the criticisms persist nonetheless. As the concerns expressed are real to those who express them, they warrant inclusion in this paper, if only as a catalyst for debate and discussion.

The following is a list of some of the key concerns raised by various stakeholders, within and outside the education system:

1. Many students are entering higher education without adequate skills (including numeracy and literacy skills) to cope with higher education.
2. The Leaving Certificate rewards rote- learning and does not reward problem-solving, critical thinking, or self-directed learning. Consequently many students make the transition to higher education without the generic skills needed to cope successfully at that level.
3. For many courses, students are not required to have studied a related subject(s) for their Leaving Cert and are therefore unprepared academically for their third-level course.
4. The choices listed by some applicants on their CAO form are often unrelated to each other, with a wide variety of different courses appearing on their list of ten choices. Lack of coherence in the overall list of choices set down by a student may raise questions about the student's commitment to or understanding of the courses applied for.
5. It is easier to get a high grade in some Leaving Cert subjects than in others. Some students choose Leaving Certificate subjects because it is easier to get a high grade in them, rather than because of their relevance for the third level course(s) for which they are applying.
6. As regards the marking and grading of the Leaving Certificate – some people argue that the old system where letter grades had no sub-division was a better system. Others are of the view that since the exam scripts are marked on a percentage scale the points system should be based on raw marks.
7. Some students choose their courses on the basis of their likely points rather than on their interest in the course – they don't want to "waste their points".
8. Society and the media emphasise quantitative indicators, and judge schools and their students on the basis of their Leaving Certificate results, thus encouraging students to apply for high points courses.
9. Some critics suggest that six subjects are too many on which to base one's points; others suggest that there should be flexibility to count more than six subjects.
10. There are too many denominated courses in First Year which can make it difficult for students to choose, and which require them to make specific choices before they enter college, without a full awareness of the implications of their choice.

How these concerns might be addressed



This section indicates some alternative and/or additional selection mechanisms. In considering the various options, one should be aware that there are no easy solutions to some of the concerns raised. While an alternative selection system may solve one problem, there is always the risk that it will create another, even greater problem. Students, their parents, and their teachers have shown in the past that they are remarkably adept at optimising whatever selection system is in place, to their own individual advantage. Therefore any proposed changes in the current system need to be carefully considered and the advantages and disadvantages carefully weighed against each other, before a decision to introduce an alternative selection system is made. Above all, any new selection system should be equitable, impartial, efficient, transparent in its application and capable of maintaining the confidence of students and their families and the public in general.

The points system is generally regarded as "tough but fair".[73] According to an editorial in the Irish Independent: "There is no doubt about the system's intensity, but does it differ greatly from the experience of students in other countries". As the editor ruminates about "how to reform the points system - that subject of never-ending criticism and debate" he states: "Attempts to modify it have had little success.... Yes – the points system needs reform. But reform does not mean tinkering: and it will fail unless it meets the criterion of fairness". Before suggesting some alternative approaches, and at the risk of repetition, this paper points out again that any higher education institution can opt out of the current points system at any time and implement its own unique selection system.

Alternative approaches to student selection for higher education are considered here under three headings:

A De-coupling selection for higher education from the Leaving Certificate,

B Using other selection mechanisms in addition to the current Leaving Certificate

C Varying the existing selection system.

A "De-coupling" selection for higher education from the Leaving Certificate

If the Leaving Certificate is as unsuitable a selector for higher education as some third level academics have suggested, some or all higher education institutions could discontinue using the Leaving Certificate as a selector for higher education and introduce alternative selection criteria.

A radical alternative would be to abolish the CAO and to have each HEI decide on and implement its own admissions process. Institutions could base their selection on whatever criteria they wished. Some might decide to re-introduce their own form of matriculation examination, which would assess and reward the types of knowledge and skills which some academics allege are not adequately rewarded by the Leaving Cert e.g. generic skills such as problem-solving, critical thinking etc.[74] Other HEIs might decide to use a form of SAT or aptitude

73 Editorial in the *Irish Independent* 22nd August 2011.

74 This suggestion is made in a Discussion Paper *"Review of Higher Education"* by Seán McDonagh and Tony Quinlan, 2011.

How these concerns might be addressed [continued]



test, or introduce creativity or performance tests or interviews, or use portfolios of student work. Other tools for selection could include student interviews, or school references, or personal statements by students indicating why they want to study the course of choice – these are just some of a large number of possibilities. The alternatives could differ from institution to institution, or groups of institutions could agree on a common approach to selection. They might, or might not, choose to retain the CAO to implement the new system.

The implications of de-coupling the Leaving Cert from selection for higher education would be immense. If a higher education institution introduced its own matriculation examination, would it consist of the same subjects as the Leaving Certificate? Would the subject syllabi be the same or different to the Leaving Cert? Who would undertake the logistics of the examinations and oversee the setting and marking of scripts? Would the assessments include orals and practicals? How would second-level students cope with two separate syllabi (matriculation and Leaving Certificate) and two separate sets of examinations?

Proponents of this proposal argue that it could be implemented almost immediately as it would not require the agreement of the various partners involved in approving changes to the Leaving Certificate. They also argue that since higher education institutions would set the matriculation syllabus themselves, and assess the students, they would ensure that their concerns about inadequate preparation for third level would be addressed, and they could no longer blame second-level schools or the Leaving Cert for the alleged shortcomings of student entering third level. However, since third level institutions are currently represented on the course committees which prepare the Leaving Cert syllabus and since Leaving Cert examination papers are submitted in advance to the NUI and Trinity College, why does the higher education system not address its apparent concerns by engaging more fully with the NCCA and the State Examinations Commission? It is unlikely that de-coupling third level selection from the Leaving Cert would be popular with either students or schools.

Another alternative would be to replace the Leaving Certificate by a Scholastic Assessment Test (SAT) or by some other selection mechanism.[75] While a SAT-type test would be relatively simple to administer and mark, it is not as good a predictor of subsequent academic performances as a school leaving examination. A recent report by the Commission on the **Use of Standardised Tests in Undergraduate Admission** in the U.S. stated that "colleges and universities may be better served by admission examinations more closely linked to high school curriculum" (than by the SAT).[76] Those who criticise the Leaving Certificate because students can be coached for the examination, will find that where SATs are used for high-stakes selection, coaching for SATs is at least as prevalent and "successful" as coaching is for the Leaving Certificate in Ireland.

75 The Scholastic Assessment Test in the U.S. is a multiple-choice test of knowledge and reasoning, comprising both verbal and mathematical sections. It is administered by the College Board and independent body, and drawn up by The Educational Testing Service. The SAT was initially called the Scholastic Aptitude Test but the title has been changed to reflect the fact that the test measures achievement at a particular point in time; it is not a measure of ability.

76 *Report of the Commission on the Use of Standardised Tests in Undergraduate Admission* 2008 (p. 7).

How these concerns might be addressed [continued]



B Additions to the current Leaving Certificate

Rather than decouple the Leaving Certificate from third level selection, an alternative would be to supplement the Leaving Cert with additional forms of selection. Some possibilities are as follows:

1 Add additional tests such as SATs or verbal and/or numerical tests, or tests which claim to test course-specific skills, similar to the HPAT for medicine. If the higher education sector is of the view that the Leaving Cert does not adequately test skills which they deem essential for successful engagement at third level, or if they feel that the Leaving Cert alone is unduly limited in the range of skills and abilities which it tests, there is no reason why they should not require applicants to sit an additional test or tests specifically designed to test the requisite skills.[77] These could include an independent problem-solving paper,[78] or supplementary examinations or tests in individual subjects.

   Any form of testing over and above the Leaving Certificate examination, will inevitably lead to a demand for preparation for such tests and a response by the private sector to this demand. Compulsory additional tests would further widen the gap between those who can afford private tuition/grinds and those who can't, and would add to the current inequities of the system.

2 In addition to allocating points for performance at the Leaving Cert, recognition could be given by HEIs for activities and achievements undertaken by students in senior cycle but not recognised or rewarded by the Leaving Cert. These could include Gaisce awards, debating prizes, sports successes or engagement in musical, drama or other such activities. The school would be required to verify these claims through signing a Diploma supplement and including appropriate evidence. A matrix of indicative points could be drawn up to indicate the type of activities that might be rewarded.

   However, in a highly competitive situation, one should not underestimate the difficulty of administering such a proposal. Situations would undoubtedly arise where students would engage in activities in a superficial way simply to get additional points. Schools would be under pressure to certify student engagement in various activities and one can envisage challenges by students to school decisions in this regard.

3 Applicants could be required to submit a personal statement or essay indicating why they wish to pursue the course for which they have applied. This is common in many countries. A written contextual statement of this kind may be useful when considered in conjunction with an interview. However, without an interview, it would be very difficult to verify the truth of such a statement or to ensure that the statement was the unaided work of the applicant. Hundreds of examples of such statements can be downloaded from the internet for a wide variety of courses, suggesting that plagiarism is common in countries where personal statements are required, and would be likely to occur here if such an option were introduced.

77 Some HEIs currently provide an opportunity for applicants to sit an alternative / additional Math test if they have not achieved a sufficiently high grade in Leaving Cert Maths but have obtained the points required for their course of choice.

78 This was suggested by the American Chamber of Commerce in its submission to the Higher Education Strategy Group.



4 HEIs might also require that a reference be provided by the applicant's school. Such references are commonly required by overseas universities and are also sought in the case of applicants applying to Irish HEIs under the HEAR and DARE schemes. Contextual information provided in such references can provide useful additional insights but there has not been a tradition generally in Ireland of providing such references and schools might be reluctant to provide references on a widespread basis. There is a long tradition of schools and teachers in this country acting as advocates for their students and it might be difficult to get a candid appraisal of a candidate's potential in such a reference. The fact that higher education institutions are designated institutions under the Freedom of Information Act means that applicants would be entitled to have access to anything written in a reference about them. This would be likely to result in a cautious response by school principals.

5 A portfolio of student work, with the possible inclusion of evidence of extra-curricular activities, is another option to be considered. While this could provide additional information on students' interests and performance, issues of author verification would arise as well as the advantage secured by candidates who might have had access to coaching and private support.

6 Interviews are another possibility and are often cited by academics as a desirable selection mechanism. While carefully structured and monitored interviews by two or more interviewers can add some insights into student suitability for certain courses, it is very difficult to guarantee objectivity in interviews. They are also very time-consuming and the evidence of their predictive validity is limited.

The options mentioned in A and B above are used for selecting students for higher education in other jurisdictions. Many of these options have been used in the past and/or continue to be used in Ireland for student selection for some courses in higher education. All of the options have additional resource implications for the institutions which use them, either in terms of the time of academic and/or administrative staff; the cost of marking scripts or tests etc. Past and current experience of all options, as well as a cost-benefit analysis of their potential, should be examined before introducing any additional criteria. Consideration should also be given to issues such as the timing of additional tests or interviews. Would such tests/interviews be held before the Leaving Certificate, in which event the numbers of candidates involved could be very considerable? On the other hand, if the tests/interviews were held to select from a more limited number of qualified candidates, this could only be done after the Leaving Cert results are available, which would leave a very narrow window of opportunity for carrying out the interviews or tests. These and other practical considerations need to be taken into consideration before decisions are made.

How these concerns might be addressed [continued]



C Variation on the current Points system

1 Set realistic minimum entry requirements for each course.[79] All students who satisfied these requirements would be eligible for random selection through a lottery system.[80] [81] A variant on this would be to use a weighted system of random selection, which would give a higher probability of selection to students with higher points. This mode of selection is used in the Netherlands and was favoured by some members of the Points Commission in 1999.

2 Reform the configuration of first year courses to eliminate denominated courses and adopt a policy of generic first year courses unless there are compelling reasons not to do so (e.g. General Arts; General Science; General Technology; General Health Sciences). Set realistic minimum entry requirements for these generic first year courses and postpone specialisation until the end of first or subsequent years. Selection for more specialised courses would be undertaken by the higher education institutions at the end of first or subsequent years, when students would have greater knowledge and understanding of the implications of their choice. Allied to this proposal would be the discontinuance of direct entry into some professional courses – and the introduction of common foundation programmes for those courses.

3 Take account of applicants' relative Leaving Cert performance/ranking within their own school either by giving additional points to such students or adding a weighting to their Leaving Cert points. An alternative to this might be to guarantee a place in a higher education institution for the top percentage of Leaving Cert pupils in every school.[82] Either of these proposals would go some way towards ameliorating the advantages enjoyed by students attending fee-paying or selective second level schools and go some way towards "levelling the playing pitch" between different schools. However, it could have a number of unintended consequences. For example, students might transfer to less advantaged schools in their final year to take advantage of the benefits such a system would confer.

4 Students could be required to take Leaving Certificate subjects relevant to the programme on which they are seeking a place and/or bonus points could be given for such subjects. For some courses in some institutions, students are currently required to take Leaving Certificate subjects which are relevant to their proposed third level course and this requirement could be extended to a greater number of courses. Since second-level students have to choose their Leaving Cert subjects at least two years before sitting the exam, such a requirements could limit their subject choices in senior cycle and could disadvantage students who are uncertain about what they want to study at third level. It would also disadvantage students attending schools which are not in a position to offer a wide range of Leaving Cert subjects.[83]

79 The minimum entry requirements should be evidence-based i.e. they should relate to the level at which former students on the course achieved successfully.

80 A variation on this option would be to apply it only to courses where the competition is currently very high.

81 In its final report in 1999, the Points Commission saw merit in the proposal that all applicants who met the minimum requirements for a course should be eligible for a lottery which would allocate the places by random selection. However, there was very little support for this proposal by those who contributed to the consultative process. (*Final Report of the Commission on the Points System*, p.59).

82 This proposal was made some months ago by the provost of Trinity College Dublin, Paddy Prendergast, to help to address the socio-economic imbalance of students entering university. It has been adopted in the State of Texas and is described in another paper prepared for this conference.

83 By international standards, Ireland has a large number of small second-level schools which because of their size, can only offer a limited choice from the list of Leaving Cert subjects.

How these concerns might be addressed [continued]



5 Where subjects are required for entry to a course, they should be counted for points purposes. At present, for most courses, students do not have to count for points purposes subjects which are requirements for that course. If a subject is genuinely regarded by the higher education institutions as a minimum requirement, arguably, it should be taken into consideration in computing an applicant's points. However, the concern indicated for option 4, would apply here. Apart from narrowing their choice of subjects studied in senior cycle, some schools might not be in a position to offer the range of subjects that would make this possible for students.

6 Give bonus points for an applicant's top course choices. In the current system, all courses listed by an applicant are treated equally when points are being allocated. If bonus points were given for a student's top choice of course, this would give some additional reward for the course most sought by a student. However, such a scheme would disadvantage students who failed to get their top choices as they would be competing for their lower choice with students who would have benefited from bonus points.

7 Give bonus points for consistency of course choices or penalise students for lack of consistency. While this may appear logical, its purpose being to reward applicants who are consistent in their choice of courses, there could be valid reasons why applicants choose courses from a variety of disciplines. For example, students may choose their top courses on a geographical or institutional basis and this may be a rational basis of choice for some students.

8 Introduce a system to correct for the different grade distribution across different subjects. One approach would be to normalise the grades, using the same curve of distribution for all subjects.[84] Another approach would be to take account of the national rank order of students in a subject or subjects.[85] This would not require any change in the current approach to marking the examinations. The student would be allocated a grade as is currently the case, but then all the students taking that subject would be rank ordered and allocated points according to their percentile in the list, with those in the top 1% getting 100 points; those in the next 1% getting 99 points and so on.[86] This appears to be a valid approach to correcting for the current unevenness of grading of various subjects in the Leaving Cert. but would need to be carefully analysed to identify ways in which the system might be exploited by students to optimise their situation. A way forward might be for one HEI to adopt this approach on a pilot basis for a limited period with a view to checking whether there might be unintended consequences to what appears a logical proposal.

9 Reduce the number of subjects on which points are calculated. This would be likely to result in a more specialised senior cycle experience and would cause difficulties for students who are still uncertain at the beginning of senior cycle as to what their subject choices should be.

84 See T. Kelleghan and D. Millar *Grading in the Leaving Cert examination: a discussion paper* and E. Mac Aogáin "The points system and grading of the Leaving Certificate examinations" in *Irish Journal of Education*, vol. 36 (2005).

85 This approach was suggested by Brian MacCraith, President of DCU, in an article in the *Sunday Business Post* 21st August 2011.

86 Professor Michael Ryan, former Professor of Computing, DCU, is a strong proponent of this system and has explained how it might operate in a number of papers and presentations.

How these concerns might be addressed [continued]



10 Reconsider the system of translating Leaving Certificate results into points. Discontinue the breakdown of grades into A1; A; B1; B2; B3 etc and return to A/B/C/D/E/F. This would require more use of a lottery system at cut-off points. The opposite possibility would be to use the percentage marks achieved by the candidates in each paper to compute points (this system was used before Grades were introduced in the Leaving Cert in the 1969). This would reduce the use of a lottery system.

11 Since performance in Leaving Cert maths is a good predictor of performance in virtually every discipline, maths should be counted for points purposes for entry into every course. This might act as an incentive for some students to take the study of maths more seriously in Leaving Cert. It might also help to increase the proportion of students who take maths at higher level. However, this would disadvantage students in schools where higher level maths is not offered.

12 Increase the number of points given for maths[87] and for the subjects in which there are two papers in the Leaving Certificate examination. Research has shown that maths and English are the best predictors of subsequent performance in third level education. These are also two of the subjects in which students sit two papers in the Leaving Cert examination – the third subject is Irish. It would be logical to give an added weight to these subjects when computing points.

In addition to reforms in the system of selection, there are a number of actions that can be taken by the higher education institutions to alleviate the stress and difficulties currently encountered by Leaving Cert students in the transfer from second to third-level education.

One of the quickest and most effective ways to reduce the current hype around higher-education selection would be to revert to the situation which existed in the past (and which still exists in some HEIs) whereby first year would be a generic year, and specialised or denominated courses would be postponed until second or subsequent years. This would reduce the supply-demand ratio for many courses, thereby reducing the cut-off points.[88] Allied to this is a suggestion that the first semester (or a significant proportion of it) should concentrate on the generic skills and foundational knowledge required by students to cope with their course of choice.[89]

87 This will be the case from 2012 onwards when an additional 25 points will be given to students who achieve at least a C on the higher level maths paper.

88 As indicated above, there has been a significant increase in the number of specialised courses in the past decade.

89 A number of institutions have introduced such support – either through designated centres or units (e.g. for maths and literacy) or through course-specific support.

A Way Forward?



The following actions are tentatively suggested as a way forward in helping to address some of the concerns about transfer from second to third level education:

1. **Reform the configuration of first-year courses in higher education institutions and use a lottery system or a weighted lottery system to select students**. Higher education institutions should consider reducing the number of specialised or denominated courses in first year and introduce generic courses, unless there are compelling reasons not to do so. In many HEIs, this will not require major change in actual course or module provision. It will however reduce the number of choices available to students when they are applying through the CAO, and will reduce the level of competitiveness currently driving the system. In determining eligibility for generic first year courses, HEIs should set realistic minimum requirements and consider using a lottery system, or a weighted lottery system, to choose from the list of eligible applicants. The first semester of first year (or a significant proportion of it) should concentrate on the generic skills and foundational knowledge required by students to cope with their course of choice.[90]

As part of this reform of course provision, consideration should be given to deferring entry to professional courses, including healthcare courses, until after a foundation year or years have been completed by students. (Action by the HEIs).

2. **Continue the reform of Leaving Certificate assessment** by introducing a greater variety of methods of assessment to ensure that the syllabi and the examinations are aligned and that the skills which have been identified as necessary for engaging successfully in higher education, such as analytic reasoning, critical thinking, the ability to generate fresh ideas, the practical application of theory etc., will be rewarded. Additional methods of assessment could include projects, portfolios and other assignments completed in non-examination conditions. Essays and open book questions answered in supervised classroom conditions and externally marked might also be introduced. Instead of requiring students to sit one written examination at the end of the final year, two or more sittings at different points throughout the two year senior cycle could be an option. New methods of assessment should also reduce the current reliance on pen and paper tests and provide for greater use of new technologies, which might include online submission of essays (written under supervision) and computer-marked multiple choice questions. The predictability of examination papers should be reduced and this in turn is likely to reduce the dependence on rote-learning. (Action by the NCCA, the SEC and the Department of Education and Skills[91]).

3. Higher education institutions which are of the view that the Leaving Cert is not a satisfactory selection mechanism, might **consider using criteria other than the Leaving Cert to select students** for some or all of their courses. Some of the alternative selection criteria listed in sections (A), (B) and (C) above might be used. These criteria could be used either instead of or in addition to the Leaving Cert. Institutions planning to use an alternative selection approach should give careful consideration to the appropriateness of such criteria and to their effectiveness elsewhere. They should put in place objective monitoring and evaluation of any alternative or additional mechanisms of selection and results should be made publicly available. (Action by the HEIs)

90 A number of institutions have introduced such support – either by setting up designated centres or units (e.g. for maths and literacy) or through providing course-specific support.

91 Current NCCA and SEC structures and practices provide for consultation with the higher educationsector in the revision of syllabi and their assessment.



4. **The HEAR and DARE access schemes should be further developed** to ensure that those from traditionally under-represented groups, and students with disabilities will continue to be given special consideration and to be eligible for a reserved quota of places in higher education outside the allocation of places for school-leavers. (HEA Access Office in collaboration with HEIs).