Efforts to improve Retention Rates at DCU.

Introduction

The HEA has requested that higher education institutions provide an update on activities currently in place within individual institutions which attempt to improve retention rates. The following is a summary of a range of initiatives, activities and analyses at DCU, which are aimed at understanding and preventing student non-progression.

DCU Entrant Profile Analysis.

DCU's Education Committee reviewed entrant profile information on an annual basis, in particular, examining trend information on undergraduate entrant cohort's prior academic attainment in relation to CAO point attainment and Leaving Certificate Mathematics attainment. Further, to aid programmatic review of the appropriateness of minimum entry requirements onto undergraduate programmes, Programme Chairs have been provided with progression profiles of entry cohorts, based on prior education attainment in Leaving Certificate Mathematics, English, Science subjects and languages. A screen grab of this report is provided in Appendix 1.

Mathematics Diagnostic Testing

Undergraduate entrants at DCU are encouraged to undertake diagnostic testing in mathematics during orientation. This provide students with an opportunity to identify areas of strength and weakness in a number of different competence areas. Students and staff within the Maths Learning Centre at DCU can then use these result to tailor supports and areas for individual development. The testing tool has now been moved onto the university VLE, Loop, to make it more widely accessible to entering students at DCU.

Maths Learning Centre

The Maths Learning Centre's role is to provide free extra informal support in a welcoming environment to all undergraduate DCU students taking a mathematics module as part of their degree programme.
The Centre is located on the ground floor of the Library on the Glasnevin campus. Students can receive extra one-to-one maths tuition during our drop-in service hours). Students can attend during these hours to use the Centre as a maths study space - where they can work at their own pace with a tutor on-hand if they have any questions. Outside of these hours, the Centre is open as a group study space for mathematics during library opening hours.

DCU Writing Centre

The Writing Centre offers assistance with academic writing to all undergraduate and postgraduate students. Students can attend on their own or in groups to receive expert guidance from a peer tutor. The DCU Writing Centre is located on the ground floor of the DCU Library. Tutorial and one-to-one support provided by the Centre include,

- Guidance in how to structure an assignment at third level.
- Advice on how to research and read effectively for an assignment.
- Support with difficulties with specific aspects of writing e.g. paragraphing, grammar, sentence structure, and transition between points, introductions, and conclusions.

Online Learning Supports

- **Skills4studycampus** provides a range of online tutorials, accessible to students on the DCU VLE, Loop. The modules are focused on general academic study skills, each module offers an optional diagnostic test which helps students focus on the areas where they will benefit most .Modules include Getting Ready for Academic Study, Reading and Note-Making, Critical Thinking Skills, Assignment Writing Skills, Groupwork and Presentations, Exam Skills, Projects, Dissertations and Reports, and Time Management. More information on Study4Skills can be found here: http://dcu.ie/studentlearning/online-tutorials.shtml

- **The Epigeum Academic Success: Skills for Learning** online modules are a comprehensive suite of online resources is designed to help students transition into full time studies. These will be piloted in DCU in 2016/17. More information on Skills for Learning can be found here: https://www.epigeum.com/courses/studying/academicsuccess

- **Student Success Toolbox** project, based at DCU, has produced a suite of eight tools designed to support the successful transition of part-time flexible learners. This project recently received a highly commended award at the International IMS Learning Impact Awards in Texas. http://studentsuccess.ie

PredictEd Research Project

In 2014/15, a research project within Insights used data analytic techniques to predict if students are likely to pass or fail a module based on their activity on the university's VLE relative to the VLE engagement patterns and module outcomes of previous students on the same module. Participating students were emailed on a weekly basis with information on their engagement relative to class colleagues, and advice on university supports where necessary. Using data analytical techniques, this research project provides an opportunity to better understand how student engagement indicators can be used to improve the predictability of student progression, and allows us to provide more timely interventions to support students when needed.

Analysis of Examination Results and Identification of "At Risk" Students

Since January 2010, DCU Education Committee has actively identified and monitored progression of students identified as 'at risk'. Students were identified as being "at risk" of non-progression in cases where individuals receive a fail grade in two or more modules completed in the first semester of their programme. Identified students were subsequently profiled relative to all undergraduate entering students. To date, this profiling has focused on prior educational attainment, student entering from underrepresented groups in higher education , and the CAO preference of their programme of study. The number of "at risk" students identified in the current model typically represent between 10-12% of the total undergraduate entering cohort, but represent just under half of all non-progressing students at DCU. Information relating to students is provided to faculties and schools for follow-up contact to offer appropriate supports.

Other

The externally funded Y1 Feedback project has produced a baseline review of feedback practices in the first year of study across the partner institutions and a comprehensive review of the literature on technology-enabled approaches to enhancing feedback practices. DCU is currently leading four case studies related to assessment/feedback. More information available at http://y1feedback.ie

Implementation of Academic Workload Modelling at DCU

Introduction
DCU's Academic Workload Framework has been designed to provide an overarching and transparent means for Heads of Schools to allocate workload within Schools on an equitable basis and in a manner which meets both internal and external requirements.

Purpose
Its purpose is to ensure that resources are allocated in a manner consistent with institutional priorities, and flexible enough to provide a framework for Faculties and Schools to be responsive to meeting their strategic goals. A further goal of the workload modelling process was to create a framework which provides efficiency in staff deployment, while ensuring quality in research teaching and service responsibilities. Finally, the outlined principles developed at DCU were to allow for an appropriate balance of activities, which would be delivered and communicated to staff as part of a transparent process.

The principles are designed to to support the Dean and Heads of School to manage a balanced workload for staff; to facilitate staff in their professional development, and to encourage staff to take up positions of leadership in teaching, research, service and management.

The application of the workload framework provides a means to demonstrate and to support equity of effort by staff of the university. Considering the challenging context in which the university operates, the framework supports Faculties and their constituent Schools to position themselves to realise opportunities, to comply with external agreement and provide a tool for ensuring the alignment of Faculty, School and university objectives as set out in its overall strategy.

Implementation of Workload Modelling at DCU

All academic staff who undertake teaching, research, service and practice, will normally be included in a School's workload allocation scheme. Each school / faculty will have a documented workload allocation scheme that conforms to these principles.

Academic Workload Models at DCU

- Workload is allocated in a manner that reflects the University's mission, vision, values and strategic priorities.
- The University encourages all staff to have a balanced workload and expects academic staff to be active researchers, to teach and to make a contribution to community and university service. However, where members of staff concentrate on one or two of these categories then that should be reflected in workload allocation to other categories.
- Any model used to produce a workload allocation scheme (Workload Allocation Model) should be practical and should not require disproportionate effort to maintain.
- Any workload allocation model needs to be flexible to deal with internal and external changes that may necessitate changes in workloads in any particular semester/academic year.
- The responsibility for allocation of workload ultimately lies with the Head of School. In practical terms, workload allocation is a consultative process involving staff member and Head.
- While overall workload requirement is the same for all staff, staff workload is relative to staff with equivalent cohort experience. For example, workload for professors is assessed relative to the level expected from professors and that for lecturers relative to the level expected from lecturers.
- Where a member of staff is assigned research or administrative duties that require exceptionally high commitment of time, teaching duties may be reduced commensurately.
- Workloads are compatible with reasonable expectations of work-life balance and facilitate a healthy working environment.
- The workload allocation takes into account all areas of activity that are expected of staff and allows appropriate flexibility for unscheduled activities.
- There must be transparency in the scheme, to aid equality and equity of treatment of staff, and a full understanding of the scheme by all staff.

Development of the Undergraduate Programme Portfolio at DCU

Strategic Context
The DCU undergraduate programme portfolio is regularly examined and reviewed, both internally and externally, for its ability to respond to the employment needs within the national and global economy. A large number programmes within the undergraduate portfolio are additional externally accredited by professional and statutory accrediting organisations for the standards in curriculum design and delivery.

The aim of making the university's programme portfolio more responsive to the skills required for the 21st Century is further detailed in the DCU Strategic Plan, Transforming Lives and Societies with the objective that we, *Continue to enhance the employability of our graduates through informing our degree programmes by regular analysis of social, economic and employer needs*.

Key Changes in Programmes and Refinement of Entry Routes in last 2 years.

At present, the number of CAO entry routes to DCU in 2016 is 68. This includes 7 entry routes from incorporating Colleges of Education (St Patrick's College, Drumcondra, Mater Dei Institute of Education, and Church of Ireland College of Education) and 8 denominated entry routes into Nursing education.

DCU is actively engaged in a review of these entry routes with a goal of not more than 44 entry routes by 2018 through consolidation of some entry routes in each of the five faculties.

Key areas include
- Initial Teacher Education
- Nursing
- Arts (Joint Honours)
- Physics
- Engineering

The following table summarises the main developments in the last 2 academic years with respect to changes in the undergraduate programme portfolio, and entry routes to undergraduate programmes at DCU.

Faculty	Progress to Date
DCU Business School	**BSc Global Business (Canada)** developed and launched for entry 2015/16 in response to strong demand for globally focused business education with North America among applicants.
Engineering and Computing	**BSc Computational Problem Solving and Software Development**, which attract and develop the skills of our most gifted aspiring programmers. Entry to this programme is determined by portfolio and interview, upon meeting minimum entry requirement. The **BSc in Data Science**, developed for first cohort of entry in 2016/17 has been developed close collaboration between the university, global centres of research excellence (INSIGHT, ADAPT), and a number of key industry stakeholders. The programme has been developed to respond to significant skills gaps in Data Analytics, Data Science and Business Intelligence across a wide range of industries In 2015/16 three entry routes to Electronic Engineering were consolidated into a single entry route with a single entry route, **B.Eng in Electronic and Computer Engineering** offer 4 major options to entrants after completion

Faculty	Progress to Date
	of a common 1st year.
Science and Health	Planning is currently underway to examine refinement of the entry routes for a number of programmes within the School of Physical Sciences and School of Nursing and Human Sciences. DCU expects to make progress in relation to this during 2016/17
Humanities and Social Sciences	The number of differentiated routes into the **Bachelor of Arts (Joint Honours)** has continued to fall; in 2015, a further five differentiated entry routes were eliminated. DCU are continuing to refine the programme offering in collaboration with colleagues in St Patrick's College Drumcondra, and Mater Dei Institute of Education.
DCU Institute of Education	In 2015/16 the DCU Institute of Education admitted a first cohort of entry into the **Bachelor of Early Childhood Education**. The programme responds to the high demand for degree level early years education in Ireland, as core to the raising of standards and leadership within this sector. It also further develops the DCU Institute of Education as the largest critical mass of education teaching and research on the island of Ireland, providing programmes and research the entire lifespan of education.

Appendix 1: Sample Extracts from Prior Educational Attainment Analysis of Entrants

Screen Grab of Entrant Profile information provided to Programme Chairs to support monitoring and review of minimum entry requirements in a range of subject areas.

Leaving Certificate Performance in Mathematics and English

[redacted]

Leaving Certificate- Mathematics

Mathematics	2013/14	2014/15	2015/16	Fail Rate*
Higher A1	10	13	9	4%
Higher A2	9	9	10	6%
Higher B1	2	9	11	9%
Higher B2	10	9	4	21%
Higher B3	2	2	1	0%
Higher C1	0	0	0	
Higher C2	0	0	0	
Higher C3	0	0	0	
Higher D1	0	0	0	
Higher D2	0	0	0	
Higher D3	0	0	0	
Ordinary A1	0	0	0	
Ordinary A2	0	0	0	
Ordinary B1	0	0	0	
Ordinary B2	0	0	0	
Ordinary B3	0	0	0	
Ordinary C1	0	0	0	
Ordinary C2	0	0	0	
Ordinary C3	0	0	0	
Ordinary D1	0	0	0	
Ordinary D2	0	0	0	
Ordinary D3	0	0	0	
Total	**33**	**42**	**35**	

[redacted]

Leaving Cert- Applied Mathematics

Applied Maths	2013/14	2014/15	2015/16	Fail Rate*
Higher A1	1	4	2	0%
Higher A2	2	5	4	0%
Higher B1	0	0	1	
Higher B2	2	1	5	0%
Higher B3	3	1	2	25%
Higher C1	0	0	0	
Higher C2	2	0	0	0%
Higher C3	1	1	0	0%
Higher D1	0	0	0	
Higher D2	0	0	0	
Higher D3	0	0	0	
Ordinary A1	0	0	1	
Ordinary A2	0	0	0	
Ordinary B1	0	0	0	
Ordinary B2	0	0	0	
Ordinary B3	0	0	0	
Ordinary C1	0	0	0	
Ordinary C2	0	0	0	
Ordinary C3	0	0	0	
Ordinary D1	0	0	0	
Ordinary D2	0	0	0	
Ordinary D3	0	0	0	
Total	**11**	**12**	**15**	

Figure 1: Sample of summary data (sample programme 1) on Leaving Cert profile, and 1st year pass rates, based on prior education attainment- Mathematics Subjects

Leaving Certificate Performance in Sciences

[redacted]

Leaving Certificate- Biology

Biology	2013/14	2014/15	2015/16	Fail Rate*
Higher A1	0	0	1	
Higher A2	2	4	1	0%
Higher B1	6	8	8	0%
Higher B2	17	9	12	0%
Higher B3	9	17	13	0%
Higher C1	11	16	5	0%
Higher C2	10	9	9	0%
Higher C3	5	7	3	0%
Higher D1	2	1	3	0%
Higher D2	3	2	1	0%
Higher D3	0	1	5	0%
Ordinary A1	1	0	0	0%
Ordinary A2	0	0	0	
Ordinary B1	0	1	1	0%
Ordinary B2	3	1	2	25%
Ordinary B3	0	0	1	
Ordinary C1	2	1	2	0%
Ordinary C2	1	0	0	0%
Ordinary C3	1	1	0	0%
Ordinary D1	0	0	1	
Ordinary D2	0	0	0	
Ordinary D3	2	0	1	50%
Total	**75**	**78**	**69**	

[redacted]

Leaving Certificate- Chemistry

Chemistry	2013/14	2014/15	2015/16	Fail Rate*
Higher A1	0	0	0	
Higher A2	0	0	0	
Higher B1	0	0	0	
Higher B2	0	2	0	0%
Higher B3	1	3	2	0%
Higher C1	1	2	5	0%
Higher C2	3	4	1	0%
Higher C3	3	0	3	0%
Higher D1	0	3	0	0%
Higher D2	6	0	1	0%
Higher D3	0	1	1	0%
Ordinary A1	0	0	0	
Ordinary A2	0	2	0	0%
Ordinary B1	0	0	0	
Ordinary B2	0	0	0	
Ordinary B3	0	0	0	
Ordinary C1	0	0	0	
Ordinary C2	0	0	0	
Ordinary C3	0	0	0	
Ordinary D1	0	0	0	
Ordinary D2	1	0	0	0%
Ordinary D3	1	0	0	0%
Total	**16**	**17**	**13**	

[redacted]

Leaving Certificate- Physics

Physics	2013/14	2014/15	2015/16	Fail Rate*
Higher A1	0	0	0	
Higher A2	0	0	0	
Higher B1	0	0	0	
Higher B2	0	0	0	
Higher B3	0	0	1	
Higher C1	1	0	2	0%
Higher C2	1	0	0	0%
Higher C3	0	0	1	
Higher D1	1	0	0	0%
Higher D2	0	0	0	
Higher D3	0	0	1	
Ordinary A1	0	0	0	
Ordinary A2	0	0	0	
Ordinary B1	0	0	0	
Ordinary B2	0	0	0	
Ordinary B3	0	0	0	
Ordinary C1	0	0	0	
Ordinary C2	0	0	0	
Ordinary C3	0	0	0	
Ordinary D1	0	0	0	
Ordinary D2	1	0	0	0%
Ordinary D3	0	0	0	
Total	**4**	**0**	**5**	

Figure 1: Sample of summary data (Sample Programme 2) on Leaving Cert profile, and 1st year pass rates, based on prior education attainment- Science Subjects