



RECOMMENDATIONS FROM THE ICT RETENTION SCOPING GROUP

Briefing Paper 2 **2016**

Scholarship in Teaching
and Learning funded by
the National Forum:

*Strengthening Ireland's
evidence base for
teaching and learning
enhancement in higher
education*



NATIONAL FORUM
FOR THE ENHANCEMENT OF TEACHING
AND LEARNING IN HIGHER EDUCATION

Recommendations from the ICT Retention Scoping Group

Briefing Paper 2 **2016**



Published by:

National Forum for the Enhancement of Teaching and Learning in Higher Education
c/o 19 Dawson Street, Dublin 2, Ireland

T: +353 1 6090648

Email admin@teachingandlearning.ie

Web: www.teachingandlearning.ie

December 2016

Introduction

The ICT Skills Action Plan 2014-2018 highlights the strategic importance of the ICT sector in Ireland and aims for both an increase in the number of ICT graduates and skilled professionals and an enhancement of ICT capacity and awareness in the education system (DES, 2014). A specific target in this Action Plan is an increase in the retention rates of ICT students within the higher education sector.

Within higher education, there is evidence to suggest that student retention is often dependent upon how well-informed students are about a prospective programme of study, whether the programme matches their expectations and how well they are prepared for the rigours of the programme (National Forum, 2015b; 2016). Within the ICT sector, student non-completion has been associated with 1) insufficient prior exposure to the subject area, 2) a limited understanding of the nature and academic demands of related programmes of study and 3) a need for more focus on the development of underlying skills in programming and mathematics during the early stages of studies (National Forum, 2015a).

The National Forum convened the ICT Retention Scoping Group in 2016 to consider how ICT retention in higher education could be improved across the sector. The group met over two full days and included representation from the HEA, the NCCA, the further education and training (FET) sector, students, career guidance, the PDST, FIT, Microsoft Ireland, higher education institutions, higher education support services and the Third Level Computing Forum. Membership of the scoping group is outlined in the appendix.

The recent Action Plan for Education 2016-2019 reinforces the increasing commitment of the Government to the ICT sector (DES, 2016). The implementation of relevant targets outlined in this Action Plan will require the development of prerequisite conditions within the education sector and society at large. These include a stronger ICT culture in Ireland, a coherent ICT education strategy, and effective communication and collaboration across all levels of education and enterprise. The recommendations put forward by the ICT Retention Scoping Group, as outlined in this briefing paper, provide the means through which such conditions may be developed.

A note on language

The group noted some confusion around language used in the field. It is recommended that the term 'computing' rather than 'ICT' be used in all relevant marketing, professional development, etc. This term is also used from this point forward in this briefing paper.

Aim of this briefing paper

This briefing paper outlines the recommendations of the ICT Retention Scoping Group. Four key recommendations were identified: the development of a marketing campaign; primary and second-level capacity building; career guidance and resource development; enhancing the provision to share good practice across the sector and to strengthen links with FET and post-primary.

Recommendations

An overarching recommendation is that RGAM resourcing of x1.3 should be increased to x1.7 to reflect resource and lab requirements of computing programmes across the sector to enable institutions to provide the supports students need to succeed.

Recommendation 1: It is recommended that a national (annual) computing marketing campaign around computing and career opportunities be commissioned

The purpose of the national computing marketing campaign would be to inform students, parents and society at large of the range of career opportunities that the field presents. This campaign should involve, but not be limited to, the following:

- A TV advertising campaign that directs individuals to tailored, plain-English, accessible information for teachers, parents and students.
- Maximum use of available media technology to ensure accessibility of messages.
- Strong liaison with Science Foundation Ireland and other stakeholders to ensure no mixed messages are put out with regard to technology and STEM.
- An emphasis on the varied pathways of career progress that are available to address the myths that computing people just go to, for example, Google or that it is the preserve of 'male techies'.
- Link with suitable computing alumni who have the potential to play an important advocacy role.

This recommendation could be implemented immediately to inform the current cohort of Leaving Certificate students.

Recommendation 2: It is recommended that a number of measures be put in place at school level to ensure the pool of computing students and staff to support them is both sufficient and suitable to meet demands

The following measures are recommended at school level:

- Computing needs to be introduced as an optional subject at post-primary level. The subject should be seen as introducing students to basic computing skills but should not necessarily be seen as a prerequisite of subsequent third level courses. The group welcomes the ongoing work of the NCCA in this regard.
 - There is a need to build teaching capacity and associated resources at post-primary level in order to ensure that teaching and learning is adequately supported.
 - In the short term, consideration should be given to using existing FET computing courses and the LCVP programme structure already integrated into the senior cycle system. Students could complete an LCVP (computing) programme and perhaps be encouraged to do so by having additional points e.g., 25, allocated to those that complete the programme.
 - Targeted professional development should be provided to staff in those schools who want to include the LCVP computing option to enable them to deliver modules in the short term.
 - It is also important that awareness of computing as a career is promoted and teaching capacity is built at primary level. The group suggests at least one teacher per primary school participates in a professional development programme over the next two years.
 - A number of programmes used for re-skilling already available (e.g., those developed for the Springboard programme) could be used as a starting point for such professional development. However, the content knowledge in such courses will need to be supplemented with related pedagogical knowledge. A national initiative similar to that used in upskilling out-of-field maths teachers could be considered.
-

Recommendation 3: It is recommended that the provision of information and support for career guidance be improved

In order to ensure that students with an interest in and aptitude for computing are guided towards pathways which will allow them to pursue related careers, there is a need for the following:

- Professional development for career guidance staff. This could be supported by industry to ensure a clear understanding of the potential of careers in computing.
- Adequate dedicated career guidance support must be in place in all post-primary schools, FET centres and colleges.
- The development of clear accessible information for students, parents, teachers and career guidance staff on all computing courses and progression routes available. (This would require a review of the accessibility and appropriateness of information available to prospective students regarding computing courses. This includes, for example, information on the websites of higher education institutions, institution prospectuses and the Qualifax system).
- The development of appropriate, adaptable resources for the provision of computing career guidance. This includes a need for resources (that have been piloted and validated before being rolled out) to be developed to allow students to self-assess their suitability for careers in computing and to understand the opportunities available.
- A national survey should be conducted to ascertain why incoming students have chosen to enter a higher education computing course and further analysis should be conducted on their progress throughout the programme (the learning journey of those who stay and those who leave the programme needs to be captured)¹.

¹ The Third Level Computing Forum has started work on this and on an investigation of ethical considerations if the survey is to be (preferably) on-line.

Recommendation 4: It is recommended that a National Computing Support Network be established

The vision of the National Computing Support Network is to bring together both those who support and those who teach computing across the higher education sector. The broad aims of the Network would be as follows:

- To share good practice around computing support and pedagogy
- To work in a coordinated manner with FET and the post primary sector
- To support the transition of post-primary and FET computing students to higher education
- To capture and share good practice regarding computing retention in higher education

A network co-ordinator should be appointed to oversee the establishment and initial development of the Network.

References

Department of Education and Skills (DES). (2016). *Action plan for education 2016-2019*. Dublin: DES.

Department of Education and Skills (DES). (2014). *ICT skills action plan 2014-2018*. Dublin: DES.

National Forum. (2015a). *Student non-completion on ICT programmes*. Dublin: National Forum.

National Forum. (2015b). *Why students leave: Findings from qualitative research into student non-completion in higher education in Ireland*. Dublin: National Forum.

National Forum. (2016). *Reaching out: Why students leave*. Dublin: National Forum.

Appendix

Members of the Scoping Group

Chair:

Joe Carthy *University College Dublin*

Members:

Peter Davitt	<i>FIT</i>
James Duggan	<i>NUI Galway</i>
Michael English	<i>University of Limerick</i>
Tom Farrell	<i>Career guidance</i>
Barry Feeney	<i>Head of Department of Computing, Institute of Technology, Tallaght</i>
Michael Foley	<i>College of Further Education, Dundrum</i>
Sean Gallagher	<i>Professional Development Service for Teachers</i>
Graham Glanville	<i>Higher Education Colleges Association</i>
Tim Horgan	<i>Cork Institute of Technology</i>
Stephen Howell	<i>Microsoft Ireland</i>
Natasha Kiely	<i>Limerick Institute of Technology</i>
Ciarán Mac an Bhaird	<i>Maynooth University</i>
Sara McCloskey	<i>Insight Centre for Data Analytics (Student)</i>
Terry Maguire	<i>National Forum for the Enhancement of Teaching and Learning in Higher Education</i>
Tony Murphy	<i>National Forum for the Enhancement of Teaching and Learning in Higher Education</i>
Jim Murray	<i>Institutes of Technology Ireland</i>
Rory O'Connor	<i>Dublin City University</i>
Jackie O'Dowd	<i>Science Foundation Ireland</i>
Ted Parslow	<i>Third Level Computing Forum</i>
Pramod Pathak	<i>National College of Ireland</i>
Vivienne Patterson	<i>Higher Education Authority</i>
Lewis Purser	<i>Irish Universities Association</i>
Brendan Ryan	<i>Limerick and Clare Education and Training Board</i>
Seamus Ryan	<i>365 Learning</i>
Barry Slattery	<i>National Council for Curriculum and Assessment</i>



National Forum for the Enhancement of Teaching and Learning
in Higher Education

c/o 19 Dawson Street

Dublin 2

T: +353 1 6090648

info@teachingandlearning.ie

DOI: 10.6084/m9.figshare.4602022.v1

www.teachingandlearning.ie